

DOCUMENT 000101 - PROJECT TITLE PAGE

BID SET

Project Name: Glen's Fair Price Building – Adaptive Reuse
Owner: Harrisonburg Development and Housing Authority
Address: 227 North Main Street, Harrisonburg, Virginia 22802
Architect Project No. 2504



Architect:
Arnold Design Studio, LLC
930 Cambria Street, NE
Christiansburg, VA 24073
Phone: (540) 239-2671
Issued: February 26, 2026

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END OF DOCUMENT 000101

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Invitation for Bids

*Lineweaver Apartments,
Glens Fair Price and JR
Polly Lineweaver*

*Harrisonburg Redevelopment
And
Housing Authority*

*286 Kelley Street
Harrisonburg, Virginia, 22802*

March 24, 2026

Table of Contents

Instructions to Bidders
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Bid Bond Form
Statement of Bidder's Qualifications
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Sample Construction Contract

The following documents will be part of the contract and are available online at:

www.harrisonburgrha.com

Also, all HUD documents can be found on HUD's website
(Definition: in all HUD documents HRHA is the PHA or IHA)

- a. HUD 5369—Instructions to Bidders for Contracts for Public and Indian Housing Programs
- b. HUD 5369-A—Representations, Certifications and Other Statements of Bidders
- c. HUD 2530—Previous Participation Certificate
- d. HUD 5370—General Conditions for Construction Contracts
- e. HUD 4010--Federal Labor Standards Provisions
- f. Harrisonburg Redevelopment and Housing Authority Purchasing and Contracting Policy
- g. Drawings and specifications for Arnold Design Studio and Gay and Neel, Inc.

Instructions to bidders

The Harrisonburg Redevelopment and Housing Authority hereinafter referred to as “**HRHA**”, will receive **sealed** bids for the new construction of 17 apartments and renovation of 120 apartments at Lineweaver, Glens Fair Price, and JR Polly Lineweaver . Bids will be accepted at HRHA offices located at 286 Kelly Street, Harrisonburg, VA before ***April 17, 2026, at 2:00 p.m.*** at which time the bids will be publicly opened and read. The building site is on 265 North Main Street in Harrisonburg VA.

Plans and specifications can be downloaded and printed from the HRHA web site after ***12:00 Tuesday, March 24, 2026***

1. A pre-bid meeting will be held 2:00 pm on ***April 1, 2026***.at the HRHA office for further information.
2. Bidding and awards will be according to **Harrisonburg Redevelopment and Housing Authority Purchasing and Contracting Policy (revised 2019)**. This document will be a part of the awarded contract.

3. Bids will be received before ***Friday, April 17, 2026, at 2:00 p.m.*** at the offices of:
Harrisonburg Redevelopment and Housing Authority
286 Kelley Street
Harrisonburg, Va. 22802
Phone (540) 434-7386

It is the responsibility of the firms replying to this IFB to see that any proposal sent through the mail, or via any other delivery method, shall have sufficient time to be received prior to the proposal due date and time.

4. Questions regarding the project can be e-mailed to *Paul Harford* at pharford@harrisonburgrha.com no later than *Monday April 13, 2026*.
5. The bidding and contract documents identified in the Table of Contents page above are accessed online. These documents will all be incorporated into the contract. They can be found at the following internet address:

From the HUD website: www.hud.gov

- a. HUD 5369—Instructions to Bidders for Contracts for Public and Indian Housing Programs
- b. HUD 5369-A—Representations, Certifications and Other Statements of Bidders
- c. HUD 2530—Previous Participation Certificate
- d. HUD 5370—General Conditions for Construction Contracts
- e. HUD 4010—Federal Labor Standards Provisions

From the HRHA website (www.harrisonburgrha.com):

- f. Harrisonburg Redevelopment and Housing Authority Purchasing and Contracting Policy.

6. All work will comply with all current local, state of Virginia, and National codes.
7. This is a **Davis Bacon Project** therefore, wage determinations apply and certified payrolls are required.
8. This is a **Build America and Buy America** project. BABA requires that all iron and steel, construction materials and manufactured products used in federally funded infrastructure projects are produced in the United States. This requirement, known as the "Buy America Preference". See additional information from HUD website:
www.hud.gov/hud-partners/baba
9. All work performed for this project is subject to the requirements of **Section 3** of the **Housing and Urban Development (HUD) Act of 1968**, as amended, **12 U.S.C. 1701 u** (Section 3) and the **Section 3 Clause**. Every contract and subcontract is subject to compliance with regulation in **24 CFR Part 135**. Compliance with **HUD Section 3** administration and certification regulations is required.
10. Insurance requirements are general liability and workers compensations on all employees and personnel working on jobsite. In addition a builder's risk policy will be required as well as automobile liability insurance for vehicles used on the site. (See Special Conditions section for more information.)
11. It is the policy of **Harrisonburg Redevelopment and Housing Authority**, that Employee, Resident, Contractor or Visitor are prohibited to smoke or use tobacco on any **HRHA** property. In addition tobacco use is strongly discouraged in the immediate vicinity of an **HRHA** property to promote a healthy, tobacco-free environment
12. The following documents must be submitted with the bid
 - a. Bid Form
 - b. Bid Bond
 - c. Statement of Bidder's Qualifications
 - d. Section 3 Compliance
 - e. HUD 5369-A
 - f. HUD 2530
 - g. Copy of Contractor's License

Harrisonburg Redevelopment and Housing Authority reserves the right to reject any and all bids.

Equal Opportunity Employer and Drug-Free, Tobacco Free Workplace

HRHA, 286 Kelley St, Harrisonburg, VA 22802
(540) 434-7386 fax (540) 432-1113 pharford@harrisonburghrha.com
Equal Opportunity Employer and Drug-Free, Tobacco Free Workplace
Harrisonburg Redevelopment and Housing Authority reserves the right to reject any and all bids.

BID FORM

To: Harrisonburg Redevelopment & Housing Authority,
286 Kelley Street
Harrisonburg, Virginia 22802

1. The undersigned, having become familiarized with the Specifications (including Invitation for Bids, this Bid form, the Contract, the General and Special Conditions, the General Scope of Work, the Technical Specifications, the Drawings, and Addenda, if any, as prepared by Community Housing Partners Design Studio and authorized by the Harrisonburg Redevelopment and Housing Authority, and on file in the office of Harrisonburg Redevelopment and Housing Authority, 286 Kelley Street, Harrisonburg, Virginia 22802, proposes to furnish all labor, materials, equipment and services required to construct and all site work, for the new construction of **Lineweaver, Glens Fair Price, and JR Polly Lineweaver** in accordance with all of the above documents , for the all-inclusive firm lump-sum of:

1. Base Bid -
Lineweaver Annex _____ \$ _____ (Dollars)
2. Alternate 1 – add Glen’s Fair Price Building _____ \$ _____ (Dollars)
3. Alternate 2 – add JR Polly Lineweaver – Renovations \$ _____ (Dollars)

LUMP SUM TOTAL _____ \$ _____ (Dollars)

Proposed mark up percentages for materials _____

2. The undersigned, understanding that time is of the essence in this project, proposes to complete all work required under this contract within _____ calendar days from the effective date of the contract or from the date when the notice to proceed was issued by the Contracting Officer whichever is later.

3. In submitting this bid, it is understood that the right is reserved by the Harrisonburg Redevelopment and Housing Authority to reject any and all bids. If written notice of the acceptance of this bid is mailed, or delivered to the undersigned within thirty (30) days after the opening thereof, or at any time thereafter before this bid is withdrawn, the undersigned agrees to execute and deliver a contract in prescribed form within ten (10) days after the contract is presented to him for signature.

4. Bid Security in the sum of _____ (Dollars)
\$_____ (5% of bid amount) in the form of bond is submitted in
accordance with the Specifications.

Date _____

Name of Estimator (Typed or Printed) _____

Company Name _____

Official Address _____

Virginia Contractors No. _____

Bidder _____

Signature of Bidder _____

Title _____

Phone No. _____

Email _____

**COMMONWEALTH OF VIRGINIA
STANDARD BID BOND**

KNOW ALL MEN BY THESE PRESENTS: That _____,
_____, the Contractor ("Principal")
whose principal place of business is located at _____
_____ and _____
_____ ("Surety") whose address for
delivery of 'Notices' is located at _____
_____ are held and firmly bound unto the Commonwealth
of Virginia, _____, the
Owner ("Obligee") in the amount of five percent (5%) of the Total Amount Bid by Principal, for
the payment whereof, Principal and Surety bind themselves, their heirs, executors,
administrators, successors and assigns, jointly and severally, firmly by these presents.
WHEREAS, the Principal has submitted a bid for _____

NOW, THEREFORE, the conditions of this obligation are as follows. This Bid Bond shall
guarantee that the Principal will not withdraw his bid during the period of thirty (30) days
following the opening of bids; that if his bid is accepted, Principal will enter into a formal
contract with the Owner in accordance with the Contract Between Owner and Contractor,
included as a part of the Invitation for Bids (IFB Documents); that Principal will submit a
properly executed and authorized Standard Performance Bond and Standard Labor and Material
Payment Bond on the forms included in the IFB documents; and that in the event of the
withdrawal of said bid within said period, or failure to enter into said contract and give said
bonds within ten (10) days after Principal has received notice of acceptance of his bid, Principal
and Surety shall be jointly and severally liable to the Owner for the difference between the
amount specified in said bid and such larger amount for which the Owner may contract with
another party to perform the work covered by said bid, up to the amount of the bid guarantee.
This amount represents the damage to the Owner of account of the default of the bidder in any
particular thereof.

The Surety represents to the Principal and to the Obligee that it is legally authorized to do business in the
Commonwealth of Virginia.

Signed and sealed this _____ day of _____, 20_____.

(SEAL)

Contractor / Principal

By: _____

Witness Title: _____

(SEAL)

Surety

By: _____

Attorney-in-Fact

Typed Name: _____

AFFIDAVIT AND ACKNOWLEDGEMENT OF ATTORNEY-IN-FACT

COMMONWEALTH OF VIRGINIA

(or, alternatively, Commonwealth or State of _____)

CITY (or) COUNTY (Strike one) of _____

I, the undersigned notary public, do certify that _____, whose name is signed to the foregoing bid bond in the amount of five percent (5%) of the Total Bid Amount and which names the Commonwealth of Virginia, _____

_____, as Obligee, personally appeared before me today in the above jurisdiction and made oath that he is the attorney-in-fact of

_____, a _____ corporation which is the Surety in the foregoing bond, that he is duly authorized to execute on the above Surety's behalf the foregoing bond pursuant to the Power of Attorney noted above, and on behalf of the above Surety, he acknowledged the foregoing bond before me as the above Surety's act and deed. She/he has further certified that her/his Power of Attorney is recorded in the Clerks Office of the Circuit Court of _____, Virginia in Deed Book _____, Page _____, and has not been revoked.

Given under my hand this _____ day of _____, 20_____.

Notary Registration No. _____

Notary Public¹ (affix seal)

My name (printed) is: _____ My commission expires: _____

¹ Pursuant to §47.1-15(3) of the Code of Virginia, as amended, the notarial certificate wording must be contained on the same page as the signature being notarized

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered. If necessary, questions may be answered on separate sheets. The Bidder may also submit any additional information he/she desires.

Name of Bidder/Company _____

Main office address _____

Phone # _____ Fax # _____

Tax ID/SSN _____ Business License # _____

Contractor's License # _____

When was the company organized? _____

How many years have you been engaged in the contracting business under your present firm or trade name? _____

Are you a corporation? Yes ☐ or No ☐. If so, where are you incorporated? _____

Is the organization a Minority Business Enterprise? Yes ☐ or No ☐

MBE means a business enterprise that is 51% or more owned, controlled and actively operated by one or more persons who are classified as a part of a racial or ethnic minority group. Such groups may include but are not limited to Black Americans, Hispanic Americans, Asian Pacific Americans and Native Americans.

Please list some of your current/active contracts, showing gross amount and the anticipated dates of completion for each one. _____

Have you ever failed to complete any work awarded to you or defaulted on a contract?

Y ☐ or N ☐. If so, where and for what reason? _____

List five jobs completed during the past year (Please include names, addresses, phone number and dollar amount):

Statement of Bidder's Qualifications p.2

Has the contractor or any officer, director or owner thereof had judgments entered against him or her within the past ten years for the breach of contracts for governmental or nongovernmental construction? Y ☐ or N ☐ If yes, please provide explanations.

Has the contractor has been in substantial noncompliance with the terms and conditions of prior construction contracts with a public body without good cause?
Y ☐ or N ☐ If yes, please provide explanations

Has the contractor or any officer, director, owner, project manager, procurement manager or chief financial official thereof has been convicted within the past ten years of a crime related to governmental or nongovernmental construction or contracting?
Y ☐ or N ☐ If yes, please provide explanations

Is the contractor or any officer, director or owner thereof currently debarred pursuant to an established debarment procedure from bidding or contracting by any public body, agency of another state or agency of the federal government?
Y ☐ or N ☐ If yes, please provide explanations

Will you, upon request, furnish any requested information that may be required by the Harrisonburg Redevelopment and Housing Authority? Yes ☐ or No ☐

The undersigned hereby authorizes and request any person, firm or corporation to furnish any information requested by Harrisonburg Redevelopment and Housing Authority in verification of the recitals comprising the Statement of Bidder's Qualifications.
I hereby state that all information provided in this document is true and correct.

Authorized Signature_____

Print or Type Name_____

Title_____

Date_____

SPECIAL CONDITIONS

Harrisonburg Redevelopment and Housing Authority may be referred to as all of the following: HRHA, PHA, Authority and the Owner. The contracting officer is HRHA's supervisor of the project.

SUPERVISION

The Contractor shall maintain a competent foreman who is satisfactory to the Contracting Officer on the job at all times to supervise the work and coordinate the installation of the systems with all parties involved.

CONTRACT DOCUMENTS

The contract shall consist of the following:

1. Contract
2. Special Conditions
3. General Conditions
4. Addendums
5. Drawings
6. Technical Specifications
7. Contractor's Bid Package and all documents identified in the Bid Package

The procurement and administration of this contract shall adhere fully to the policies and guidelines established with the HRHA, state and federal procurement practices as established in HUD Handbook 7460.8 REV 2, Procurement Handbook for Public Housing Agencies, and 24 CFR Part 85, Administrative Requirements for Grants and Cooperative Agreements to State, Local and Federally

FAMILIARITY WITH PROPOSED WORK

Bidders are required to examine carefully the drawings and specifications and to make a personal examination of the location and nature of the proposed work. A pre-bid meeting will be held on *April 1 at 2:00 pm* to answer any questions. This shall address any confusion in the meaning or intent of anything shown on the Drawings or discrepancies in the Specifications Bidders must provide 48 hours' notice to HRHA before inspection of the site and buildings. **Inquiries should be made to HRHA before any proposal is submitted and before April 13, 2026.** The submission of a proposal shall be prima facie evidence that the bidder thoroughly understands the Drawings and the terms of the Specifications. Bidders are assumed to have made themselves familiar with all Federal and State laws, local laws, ordinances and regulations which in any manner affect the work or its execution, and no plea of misunderstanding will be considered on account of ignorance thereof. If the bidder or Contractor shall discover any provisions in the Specifications or on the Drawings or other Contract Documents which are contrary to or inconsistent with any such law, ordinances, rule, regulations, codes and compliance, he shall report it to HRHA in writing.

BEFORE WORK COMMENCES:

Contractor must provide the following:

1. INSURANCE

Prior to the commencement of any construction of the Project, the Contractor and each subcontractor shall furnish HRHA with certificates of insurance showing the following insurance is in force and keep in force until the Final Closing:

- Builder's Risk insurance, insuring for all risks of physical loss of or damage (excluding the perils of earthquake and flood, unless specifically required by the Limited Partner (or Investor Member) or Special Limited Partner (or Special Member) to the real property comprising or intended to comprise the Project construction, and personal property of the Partnership (or LLC) used to maintain or service the Project construction, whether located at the site or elsewhere, including while in-transit. Coverage and limits shall be extended to include the loss of anticipated rents sustained due to an insured loss, for a period of at least twelve months from the date of such loss. The Policy shall provide for claims to be paid based upon replacement cost of the lost or damaged property without deduction for depreciation and for any additional architectural or engineering fees incurred as a result of an insured loss and any other soft costs (see attached worksheet); loss payment shall be to the Partnership. Limits of policy will be at least the estimated replacement value of the completed Project. The policy shall have a deductible of no greater than \$10,000 per occurrence. The Limited Partner (or Investor Member) will consider higher deductibles based on the financial standing of the Guarantor. The policy shall carry no coinsurance provisions. The policy shall include an endorsement naming the Limited Partner (or Investor Member) and Special Limited Partner (or Special Member) as Loss Payees and Certificate Holders, as their interests may appear, and as additional insureds, and shall allow the Limited Partner (or Investor Member) and Special Limited Partner (or Special Member) to be associated in the adjustment of any claim. The policy shall also include a Notice of Cancellation endorsement.
- Other forms or types of insurance which the Limited Partner (or Investor Member) or Special Limited Partner (or Special Member) may now or hereafter require, including without limitation, earthquake, flood, windstorm, pollution, sinkhole/mine subsidence, ordinance and law coverage and other special hazards.
- Evidence from the Contractor of Worker's Compensation insurance, insuring for occupational disease or injury and employer's liability, and covering the Contractor's full liability for statutory compensation to any person or persons who perform work in, on, or about the Project construction, including the employees of sub-contractors of any tier, and liability to the dependents of such persons. The policy will be in a form which complies with the worker's compensation acts and safety laws of the state in which the Project is located. Worker's Compensation limits shall be statutory; Employer's Liability Limits shall be at least \$1 million per occurrence.

HRHA, 286 Kelley St, Harrisonburg, VA 22802

(540) 434-7386 fax (540) 432-1113 pharford@harrisonburgrha.com

Equal Opportunity Employer and Drug-Free, Tobacco Free Workplace

Harrisonburg Redevelopment and Housing Authority reserves the right to reject any and all bids.

- Comprehensive General Liability and Property Damage Insurance (including limited contractual liability and completed operations) in the amount of not less than \$1 million per occurrence and \$2 million in the aggregate covering personal injury, bodily injury and property damage, and covering products and completed operations for a minimum of three years following completion of construction. The policy shall include an endorsement naming the Partnership (or LLC), Limited Partner (or Investor Member), and Special Limited Partner (or Special Member) as additional insureds and certificate holders, and shall also include a Notice of Cancellation endorsement.
- Comprehensive Automobile Liability Insurance, including hired and non-owned vehicles, if any, in the amount of not less than \$1 million covering personal injury, bodily injury and property damage.

2. PERFORMANCE AND PAYMENT BONDS

Before Commencing work, the contractor shall provide bonds as follows:

- (1) A performance bond in the sum of the contract amount conditioned upon the faithful performance of the contract in strict conformity with the plans, specifications and conditions of the contract.
- (2) A payment bond in the sum of the contract amount. The payment bond shall be for the protection of claimants who have and fulfill contracts to supply labor or materials to the prime contractor to whom the contract was awarded, or to any subcontractors, in the prosecution of the work provided for in the contract, and shall be conditioned upon the prompt payment for all material furnished or labor supplied or performed in the prosecution of the work.
- (3) Each bond shall be (i) executed by one or more surety companies selected by the contractor that are authorized to do business in Virginia; (ii) made payable to the Authority; and (iii) filed with the Authority or a designated office or official thereof.

SUBCONTRACTORS

All General Contractors are responsible to see that all sub-contractors have obtained their Contractor and City licenses, proper insurance (including general liability, worker's compensation and automobile) and W-9 tax ID numbers. The Contractor shall submit to the HRHA a list of all subcontractors who are contracted to work on this project prior to subcontractor reporting to the site.

BEFORE RECEIVING PAYMENT

The Contractor shall submit periodic estimates showing the value of the work performed during each period based upon the approved breakdown of the contract price. Such estimates shall be submitted not later than 30 days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment.

CONSTRUCTION LOG

The Contractor shall maintain a construction log to record work progress, material delivery, site conditions, site visitations and potential causes for delays which may be used as the basis for granting time extensions or to determine the amount of liquidated damages to be assessed against the contractor.

MINIMUM RATES OF PAY

A schedule of the minimum rates of pay applicable to this Contract is attached. Minimum rates of pay for the Contract are as determined by the U.S. Department of Labor under the Davis-Bacon Act. These rates apply to the General Contractor and all Sub-contracts. All General Contractors will be responsible for submitting for their Sub-Contractors.

COMMUNICATIONS

All notices, demands, requests, instructions, approvals, proposals, and claims must be in writing.

Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Contract or at such other offices as he may from time to time designate in writing to HRHA or deposited in the United States mail in a sealed, postage prepaid envelope, in each case addressed to such office.

All papers required to be delivered to HRHA or Architect shall, unless otherwise specified in writing to the Contractor, be delivered to HRHA and any notice to or demand upon HRHA or Architect shall be sufficiently given if so delivered, or deposited in the United States mailed in a sealed, postage prepaid envelope for transmission to said office at such address, or to such other representatives of HRHA or to such other address as HRHA subsequently specify in writing to the Contractor for such purpose.

Any such notice shall be deemed to have been given as of the time of actual delivery; or, in the case of mailing, when the same should have been received in due course of post; or, in the case of telegrams, at the time of actual receipt.

TIME OF COMPLETION

The Contractor shall complete all work required under this contract within _____ (*Insert agreed on number of days indicated in bid form*) calendar days from the effective date of the contract, or from the date when the notice to proceed was issued by the Contracting Officer whichever is later

TIME EXTENSIONS

The contractor is responsible for completing the work within the time established in the contract. The basic principle under which a time extension may be granted is that delays arising from unforeseeable causes beyond the control and without the fault or negligence of the contractor may be grounds for allowing a time extension. Such time extensions should be formalized in a written modification to the contract. In order to be considered for approval by HRHA, request for time extensions must meet the following criteria:

1. The contractor must have submitted a written notice to HRHA within ten (10) calendar days of the occurrence/cause of any delay; and
2. The severity and extent of adverse weather could not have been reasonably foreseen by the contractor (normal seasonal levels of rain, snow, cold or heat should have been considered by the contractor) or the cause of the delay was beyond the contractor's control.

If the Contractor fails to complete the work within the time specified in the contract, or any extension, the Contractor shall pay to HRHA as liquidated damages, the sum of \$ **2,000.00** for each day of delay.

Special Conditions p.5

BEFORE FINAL PAYMENT

1. Final walk through to create a punch list must be done with the HRHA contracting officer
2. All items on the punch list must be completed
3. Inspection certifications and certificate of occupancies from local authorities having jurisdiction shall be delivered to the Contracting Officer prior to final payment
4. Operations and Maintenance manuals must be created and presented
 - a. This will include, but is not limited to, serial numbers and locations of all appliances (HVAC, water heaters, kitchen appliances) along with start-up date for each appliance, the length of warranty for materials and labor.
 - b. Included in the manual will be copies of installation and maintenance manuals for each type of appliance.
5. As built drawings , final finish schedules, warranties, guarantees and certifications must be delivered to HRHA.
6. The Contractor shall provide prompt written notification to the Housing Authority and the Engineer when all on site work is completed and also indicate the last day work was performed. Should further work be required after a final inspection, the Contractor will be responsible for the cost incurred by the Housing Authority Inspector and Architect/ Engineer. The contractor also must provide written notification again which indicates the last day work was performed.

Certification of Compliance with Regulations to Section 3 of Housing and Urban Development Act of 1968 as required for participate in: construction of Lineweaver, Glens Fair Price, and JR Polly Lineweaver

PURPOSE, AUTHORITY AND RESPONSIBILITY

Section 3 is a provision of the Housing and Urban Development (HUD) Act of 1968 that promotes local economic development, neighborhood economic improvement, and individual self-sufficiency.

Section 3 requires that recipients of certain HUD financial assistance, to the greatest extent possible, provide job training, employment, and contract opportunities for low- or very-low income residents, particularly persons who are recipients of HUD assistance for housing.

_____(hereinafter called the Company), certifies that upon being awarded a contract to the Harrisonburg Redevelopment and Housing Authority, that the Company:

- a) Is under no contractual or other impediment that would prevent it from complying with requirements of Section 3 as set forth in 24 CFR part 135;
- b) Will comply with HUD's regulations in 24 CFR Part 135;
- c) Will submit to HRHA a Section 3 Work Plan, before a "Notice to Proceed" is issued or start date projected. The developer or prime contractors will require all subcontractors to submit a Section 3 Work Plan prior to proceeding with their respective scope of work.
- d) Will send to each labor organization or representative of workers with which the Company has a collective bargaining agreement or other understanding, a notice advising the labor organization or the representative or workers of the Company's commitments under Section 3;
- e) Will include this Section 3 Certification of Compliance in every subcontract subject to compliance with the regulations found in 24 CR Park 135 and further agrees to take the appropriate action pursuant to those regulations in the event the subcontractor is found to be in violation of 24 CFR Part 135;
- f) Will not subcontract with any subcontractor where the Company has notice or knowledge that the subcontractor has been found in violation of any provision of 24 CFR Part 135;
- g) Will not fill any vacant employment positions, including training positions, (1) after the Company is selected but before the contract is executed, and (2) with persons other than those to whom the regulations in 24 CFR Part 135 require employment opportunities to be directed, to circumvent the Company's obligations under 24 CFR Part 135;
- h) Will, to the extent feasible, make a good faith effort to utilize the services of businesses located in or substantially owned by persons who live within the project boundaries.

Company _____ By: Authorized Signature _____

New Construction at Lineweaver, Glens Fair Price,
and JR Polly Lineweaver, HRHA

Title_____Date_____

HRHA, 286 Kelley St, Harrisonburg, VA 22802
(540) 434-7386 fax (540) 432-1113 pharford@harrisonburgrha.com
Equal Opportunity Employer and Drug-Free, Tobacco Free Workplace
Harrisonburg Redevelopment and Housing Authority reserves the right to reject any and all bids.

New Construction at Lineweaver, Glens Fair Price,
and JR Polly Lineweaver Harrisonburg

DAVIS BACON WAGE RATE

General Decision Number: VA140020 01/03/2014 VA20

Superseded General Decision Number: VA20130031

State: Virginia

Construction Type: Residential

Counties: Charlottesville*, Fluvanna, Greene, Harrisonburg*
and Rockingham Counties in Virginia.

*INDEPENDENT CITIES

RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family
homes and apartments up to and including 4 stories).

Modification Number	Publication Date
0	01/03/2014

* SUVA2010-021 08/24/2010

	Rates	Fringes
CARPENTER.....	\$ 14.70	1.84
CEMENT MASON/CONCRETE FINISHER...	\$ 18.00	0.00
LABORER: Common or General.....	\$ 8.67	3.50
OPERATOR: Crane, All Types.....	\$ 23.18	6.95
PLUMBER.....	\$ 27.01	7.88
TRUCK DRIVER: Dump Truck.....	\$ 11.81	0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====
Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

HRHA, 286 Kelley St, Harrisonburg, VA 22802
(540) 434-7386 fax (540) 432-1113 pharford@harrisonburghrha.com
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Harrisonburg Redevelopment and Housing Authority reserves the right to reject any and all bids.

New Construction at Lineweaver, Glens Fair Price,
and JR Polly Lineweaver Harrisonburg

4.) All decisions by the Administrative Review Board are final.
=====

END OF GENERAL DECISION

HRHA, 286 Kelley St, Harrisonburg, VA 22802
(540) 434-7386 fax (540) 432-1113 pharford@harrisonburgrha.com
Equal Opportunity Employer and Drug-Free, Tobacco Free Workplace
Harrisonburg Redevelopment and Housing Authority reserves the right to reject any and all bids.

SAMPLE CONSTRUCTION CONTRACT

This Agreement is made this _____ day of _____, 2026, between Harrisonburg Redevelopment and Housing Authority, a Virginia corporation, (the "Owners"), whose address is 286 Kelley Street, PO Box 1071, Harrisonburg, Virginia, 22803 and _____ (the "Contractor") whose _____ mailing _____ address _____ is _____.

1. **Contractor's license.** Contractor has been issued Building Contractor's licenses by the Virginia Board of Contractors. Contractor's license is # _____, expires _____ and is a Class _____ license.

2. **Project.** Contractor is constructing _____ new construction at Lineweaver, Glens Fair Price, and JR Polly Lineweaver, for Harrisonburg Redevelopment and Housing Authority (the "Owners"), located at 286 Kelley Street, PO Box 1071, Harrisonburg, Virginia, 22803.

3. **Bid Documents.** The Contractor shall perform all work listed below in strict conformance with the plans and specifications included in bid package dated _____ for the project, which are made a part hereof.

4. **Cost and payment terms.** HRHA shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract. The sum total of contract amount is \$_____.

5. **Construction time; extensions.** Contractor shall commence work within five (5) days after request of Owner and shall diligently pursue completion of the work. The work shall be totally completed by _____, 2014. TIME IS OF THE ESSENCE OF THIS CONTRACT.

6. **Obligations of Contractor.** Contractor shall provide and pay for all labor, tools and equipment and other facilities and services necessary for the proper execution and completion of the work. It is Contractor's obligation to comply with all laws, ordinances, rules, regulations and lawful orders from any public authority bearing on the performance of the work.

7. **Warranties of Contractor; delivery of other warranties.** Contractor warrants to the Owner that all work will be of good quality, free from flaws and defects, and in conformance with this Agreement. All work not conforming to these requirements, including substitutions not formally approved and authorized by Owner, may be considered defective. Contractor unconditionally guarantees his work against all defects of materials and workmanship for a period of one year expiring from the date of final settlement between Contractor and Owners.

8. **Changes in contract.** The Contractor may be ordered in writing by Owner to make changes in the work within the general scope of this agreement consisting of additions, deletions or other revisions.

9. **Insurance requirements of Contractor.** Contractor will purchase and maintain such insurance as will protect it from claims for worker's compensation, damages because of bodily injury or death and property damage by reason of work performed under this contract.

10. **Waivers of liens.** No payment shall be made until the Contractor submits to Owner, in such form as is reasonably required by Owner, an affidavit that all payables, bills for materials and equipment and other indebtedness connected with the work have been paid or otherwise satisfied and also submits such other data as is reasonably required by way of releases and waivers of mechanic's or materialmen's liens arising out of this contract.

11. Cancellation rights and liabilities in case of default. This contract may not be cancelled without the written consent of all parties. If Contractor defaults under this Agreement, he shall be liable for any expenses incurred by the Owner, including attorney's fees in connection with this transaction and the enforcement of this Agreement.

12. Assignment. Contractor shall not assign this Agreement without the consent of Owner, nor shall it subcontract any of the work required hereunder without the written consent of Owner.

13. Cooperation. The Contractor shall cooperate with Owner in scheduling and performing his work to avoid conflict or interference with the work of others. In addition, Contractor shall take necessary precautions to protect properly the finished work of other trades from damage caused by his work.

14. Rubbish. The Contractor shall, at all times, keep the project free from accumulation of waste materials or rubbish arising out of his work.

15. Indemnification. The Contractor agrees to indemnify and hold harmless the Owners from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from the performance of Contractor's work to the extent caused in whole or in part by any negligent or willful act or omission of the Contractor or anyone directly or indirectly employed by him or anyone for whose acts he may be liable.

16. Termination. If the Contractor defaults or neglects to carry out any of the work in accordance with this Agreement and fails within three (3) working days after written notice from Owner to commence and continue correction of the default or neglect, Owner may (but shall not be obligated to) require the Contractor to terminate work and remove its property or make good such deficiencies and in either case deduct the cost thereof from the costs then or thereafter due the Contractor, and hold the Contractor responsible for the cost to finish the work.

17. Independent Contractor. It is expressly agreed and stipulated that neither Contractor nor the employees or agents of Contractor shall be deemed or construed to be employees of Owner. As an independent contractor, Contractor has the right to adopt his own means and methods in accomplishing the work consistent with the requirements of this contract and shall be free from control or direction over the performance of his work. Contractor represents and certifies that he is engaged in an independently established trade, occupation, profession or business and is available to perform service for anyone who may wish to contract with him. Contractor shall comply with all State and Federal Occupational, Safety and Health Act laws and regulations.

WITNESS the following signatures.

Harrisonburg Redevelopment
and Housing Authority

By: _____
Michael G. Wong, Executive Director

"Contractor"

By: _____
Title: _____

**HARRISONBURG REDEVELOPMENT
AND HOUSING AUTHORITY**

PURCHASING AND CONTRACTING POLICY

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**HARRISONBURG REDEVELOPMENT
AND HOUSING AUTHORITY**

PURCHASING AND CONTRACTING POLICY

**ARTICLE 1
GENERAL PROVISIONS**

§ 1.1 Preamble.

These provisions shall collectively be the purchasing and contracting policy for the Harrisonburg Redevelopment and Housing Authority (the “Authority”).

§ 1.2 Purpose.

The purpose of this policy is to increase public confidence in purchasing by the Authority, to encourage competition among vendors and contractors, to administer fair and impartial purchasing procedures, and to obtain high quality goods and services at a reasonable price.

§ 1.3 Application.

(a) This policy applies to the procurement of goods, services, insurance and construction by the Authority from nongovernmental sources.

(b) When a procurement transaction involves the expenditure of federal assistance or contract funds, the receipt of which is conditioned on compliance with mandatory requirements in federal laws or regulations not in conformance with the provisions of the Virginia Public Procurement Act (Va. Code § 2.2-4300, *et seq.*) and this Purchasing and Contracting Policy, the Authority may comply with such federal requirements, notwithstanding contrary provisions of state law or this policy, only upon the written determination by the Purchasing Agent that acceptance of the grant or contract funds under the applicable conditions is in the public interest. Such determination shall state the specific provisions of state law and this policy that conflict with the conditions of the grant or contract.

§ 1.4 Effective Date of Policy.

This policy shall become effective October 16, 2019, and shall replace all purchasing and contracting policies previously adopted. Any contract entered into prior to October 16, 2019, shall be governed by the procurement policies and regulations of the Authority in effect at the time the contract was executed.

§ 1.5 Severability.

If any provision of this policy is declared invalid under any circumstances, all other provisions of this policy shall remain in full effect to the greatest extent possible without the invalid provision.

§ 1.6 Definitions.

As used in this policy, the terms listed below have the following meanings. Any term not defined has the meaning assigned in the Virginia Public Procurement Act (Va. Code § 2.2-4300, *et seq.*).

- (1) Authority. The Harrisonburg Redevelopment and Housing Authority.
- (2) Best Value. The overall combination of quality, price, and various elements of required services that in total is optimal relative to the Authority's needs.
- (3) Business. Any type of corporation, partnership, limited liability company, association, or sole proprietorship operated for profit.
- (4) Change Order (Unilateral). A written order signed and unilaterally issued by the Purchasing Agent directing the contractor to make changes that is issued pursuant to a contract provision that authorizes the Purchasing Agent to order such changes without the consent of the contractor.
- (5) Confidential Information. Any information available to an employee only because of the employee's status as an employee of the Authority and that is not a matter of public knowledge or available to the public on request.
- (6) Construction. Building, altering, repairing, improving or demolishing any structure, building or highway, and any draining, dredging, excavation, grading or similar work upon real property.
- (7) Construction Management Contract. A contract in which a party is retained by the owner to coordinate and administer contracts for construction services for the benefit of the owner, and may also include, if provided in the contract, the furnishing of construction services to the owner.
- (8) Contract. All types of Authority agreements, regardless of what they may be called, for the procurement of goods, services, insurance or construction.
- (9) Contract Modification. Any written alteration in specifications, delivery point, rate of delivery, period of performance, price, quantity, or other provision of any contract accomplished by mutual action of the parties to the contract.
- (10) Contractor. Any person having a direct contract with the Authority.

(11) Cost-Reimbursement Contract. A contract under which a contractor is reimbursed for costs which are allowable and allocable in accordance with the contract terms and the provisions of this policy, and a fee or profit, if any.

(12) Design-Build Contract. A contract under which a contractor agrees to both design and build the structure or other item specified in the contract.

(13) Direct or Indirect Participation. Involvement in any procurement transaction through decision, approval, disapproval, recommendation, preparation of any part of a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or acting in any other advisory capacity.

(14) Employee. Any person receiving a salary or wages, performing personal services, or serving as an elected official for the Authority or any department, agency, commission, council, board or other entity established by the Authority.

(15) Executive Director. The chief administrative officer of the Authority.

(16) Goods. All material, equipment, supplies, printing and automated data processing hardware and software.

(17) Governing Body. The Commissioners of the Authority who are appointed as provided by law.

(18) Immediate Family. A spouse, children, parents, brothers and sisters, and any other person living in the same household as the employee.

(19) Informality. A minor defect or variation of a bid or proposal from the exact requirements of the Invitation to Bid, or the Request for Proposal, which does not affect the price, quality, quantity or delivery schedule for the goods, services or construction being procured.

(20) Insurance. A contract whereby, for a stipulated consideration, one party undertakes to compensate the other for loss on a specified subject by specified perils.

(21) Invitation to Bid or Invitation for Bid. All documents, whether attached or incorporated by reference, utilized for soliciting sealed bids.

(22) Job Order Contracting. A method of procuring construction by establishing a book of unit prices and then obtaining a contractor to perform work as needed using the prices, quantities, and specifications in the book as the basis of its pricing. The contractor may be selected through either competitive sealed bidding or competitive negotiation depending on the needs of the Authority. A minimum amount of work may be specified in the contract.

(23) Multiphase Professional Services Contract. A contract for the providing of professional services where the total scope of work of the second or subsequent phase of the contract cannot be specified without the results of the first or prior phase of the contract.

(24) Nonprofessional Services. Any services not specifically identified as professional services in the definition of professional services.

(25) Official Responsibility. Administrative or operating authority, whether intermediate or final, to initiate, approve, disapprove or otherwise affect a procurement transaction or any claim resulting therefrom.

(26) Person. Any business, individual, union, committee, club, other organization, or group of individuals.

(27) Personal Interest. A financial benefit or liability that exists by reason of (i) ownership in a business if the ownership interest exceeds three percent of the total equity of the business; (ii) annual income that exceeds, or may reasonably be anticipated to exceed, \$5,000 from ownership in real or personal property or a business; (iii) salary, other compensation, fringe benefits, or benefits from the use of property, or any combination thereof, paid or provided by a business or governmental agency that exceeds, or may reasonably be anticipated to exceed, \$5,000 annually; (iv) ownership of real or personal property if the interest exceeds \$5,000 in value and excluding ownership in a business, income, or salary, other compensation, fringe benefits or benefits from the use of property; (v) personal liability incurred or assumed on behalf of a business if the liability exceeds three percent of the asset value of the business; or (vi) an option for ownership of a business or real or personal property if the ownership interest will consist of (i) or (iv) above.

(28) Potential Bidder or Offeror. A person who, at the time the Authority negotiates and awards or proposes to award a contract, is engaged in the sale or lease of goods, or the sale of services, insurance or construction, of the type to be procured under the contract, and who at such time is eligible and qualified in all respects to perform that contract, and who would have been eligible and qualified to submit a bid or proposal had the contract been procured through competitive sealed bidding or competitive negotiation.

(29) Pricing Data. Factual information concerning prices for items substantially similar to those being procured. Prices in this definition refer to offered or proposed selling prices, historical selling prices and current selling prices. The definition refers to data relevant to both prime and subcontract prices.

(30) Procurement Act. The Virginia Public Procurement Act, § 2.2-4300; Chapter 43, Title 2.2, 1950 Code of Virginia, as amended.

(31) Procurement Transaction. All functions that pertain to the obtaining of any goods, services or construction, including description of requirements, selection and solicitation of sources, preparation and award of contract, and all phases of contract administration.

(32) Professional Services. Work performed by an independent contractor within the scope of the practice of accounting, actuarial services, architecture, land surveying, landscape architecture, law, dentistry, medicine, optometry, pharmacy or professional engineering.

(33) Public Body. Any legislative, executive or judicial body, agency, office, department, authority, post, commission, committee, institution, board or political subdivision created by law to exercise some sovereign power or to perform some governmental duty and empowered by law to undertake the activities described in this policy.

(34) Purchasing Agent. The Executive Director or other individuals designated by the Executive Director as the Purchasing Agent for the Authority.

(35) Request for Proposal. A written public notification soliciting proposals for professional, nonprofessional, or contractor services. A Request for Proposal generally describes the services sought, the unique capabilities or qualifications needed to perform the work, factors to be used to evaluate the proposals and the conditions for negotiating the prices and terms with the offerors. A Request for Proposal includes all documents attached or incorporated by reference that are utilized for soliciting proposals.

(36) Request for Qualifications. A written public notification inviting interested qualified persons to apply for prequalification.

(37) Responsible Bidder or Offeror. A person who has the capability, in all respects, to perform fully the contract requirements and the moral and business integrity and reliability that will assure good faith performance, and who has been prequalified, if required.

(38) Responsive Bidder. A person who has submitted a bid which conforms in all material respects to the Invitation to Bid.

(39) Reverse Auctioning. A procurement method wherein bidders are invited to bid on specified goods or nonprofessional services through real-time electronic bidding, with the award being made to the lowest responsive and responsible bidder. During the bidding process, bidders' prices are revealed and bidders shall have the opportunity to modify their bid prices for the duration of the time period established for bid opening.

(40) Services. Any work performed by an independent contractor wherein the service rendered does not consist primarily of acquisition of equipment or materials, or the rental of equipment, materials and supplies.

(41) Specification. Any description of the physical or functional characteristics, or of the nature of a good, service or construction item. It may include a description of any requirement for inspecting, testing, or preparing a good, service or construction item for delivery.

ARTICLE 2 OFFICE OF THE PURCHASING AGENT

§ 2.1 Establishment and Appointment.

(a) There is hereby created a purchasing system to operate under the direction and supervision of the Executive Director.

(b) The Executive Director shall be the Authority's Purchasing Agent.

§ 2.2 Purchasing Agent's Authority.

The Purchasing Agent is authorized to procure goods, services, insurance and construction in accordance with this policy.

§ 2.3 Duties.

In accordance with this policy, the Purchasing Agent shall: (a) purchase or supervise the purchasing of all goods, services, insurance and construction needed by the Authority; (b) exercise direct supervision over the Authority's central stores and general supervision over all other inventories of goods belonging to the Authority; and (c) establish and maintain programs for specifications, development, contract administration, and inspection and acceptance, in cooperation with the public bodies using the goods, services, and construction.

§ 2.4 Operational Procedures.

The Purchasing Agent may adopt operational procedures relating to the execution of the duties assigned herein in a manner consistent with this policy.

§ 2.5 Delegation.

The Purchasing Agent may delegate authority to purchase certain supplies, services or construction items to other employees of the Authority if such delegation is deemed necessary by the Purchasing Agent for the effective procurement of those items.

§ 2.6 Unauthorized Purchases.

Except as herein provided, no official, elected or appointed, or any employee shall purchase or contract for any goods, services, insurance or construction within the purview of this policy. Any purchase order or contract made contrary to the provisions of this policy is unauthorized and shall not bind the Authority.

ARTICLE 3
EXCEPTIONS TO REQUIREMENTS
FOR COMPETITIVE PROCUREMENT

§ 3.1 Purchases From Governmental Sources.

Purchases from governmental agencies are not covered by the Procurement Act or this procurement policy. There are no procedural requirements for such purchases.

§ 3.2 Cooperative Procurement.

The Authority may purchase from another public body's contract if the Request for Proposal or Invitation to Bid specified that the procurement was a cooperative procurement being conducted on behalf of other public bodies. This provision does not apply to contracts for architectural services, engineering services, or construction.

§ 3.3 Small Purchases.

(a) The Purchasing Agent may award single or term contracts without requiring sealed bids or competitive negotiation for:

- (1) Goods and services other than professional services and non-transportation-related construction, if the aggregate or sum of all phases is not expected to exceed \$100,000;
- (2) Transportation-related construction, if the aggregate or sum of all phases is not expected to exceed \$25,000; and
- (3) Professional services, if the aggregate or sum of all phases is not expected to exceed \$80,000.

(b) Purchases made by the Purchasing Agent pursuant to Subsection (a) may be based upon any of the following criteria:

- (1) Pricelists; Price Quotes. The cost of the items purchased is the lowest of the suppliers' current price lists in the office of the Purchasing Agent. The Purchasing Agent shall attempt to obtain at least three current price lists from suppliers prior to making purchases under this provision. The Purchasing Agent may obtain verbal or written price quotations from two suppliers in lieu of current price lists. Any price list obtained within 12 months of the purchase or any verbal or written quotation obtained within 30 days of the purchase shall be considered current.
- (2) Common Pricing. The Purchasing Agent knows that all competitors have substantially the same price for the items to be purchased.

- (3) Reorder. The purchase does not exceed \$30,000 and is a reorder of commodities purchased within 12 months prior to the proposed purchase.
- (4) Nominal Value. The contract or purchase is for a sum of no more than \$250.
- (5) Two Quotes. The Purchasing Agent obtains a written or verbal price quotation for goods or services from at least two providers.
- (6) Impracticability. The Purchasing Agent concludes that it is not practicable to obtain bids for the purchases.

§ 3.4 Legal services.

The Authority may contract for legal services, expert witnesses, and services associated with litigation or regulatory proceedings without competitive procurement.

§ 3.5 Sole Source Procurement.

Upon a determination in writing that there is only one source practicably available for that which is to be procured, a contract may be negotiated and awarded to that source without competitive sealed bidding or competitive negotiation. The writing shall document the basis for this determination. The Purchasing Agent shall issue a written notice stating that only one source was determined to be practicably available, and identifying that which is being procured, the contractor selected, and the date on which the contract was or will be awarded. This notice shall be posted on the Department of General Services' central electronic procurement website or other appropriate websites, and in addition, the Purchasing Agent may publish it in a newspaper of general circulation on the day the public body awards or announces its decision to award the contract, whichever occurs first. The notice shall be posted in a designated public area of the Authority's offices.

§ 3.6 Emergency Purchases.

(a) In case of emergency, a contract may be awarded without competitive sealed bidding or competitive negotiation; however, such procurement shall be made with such competition as is practicable under the circumstances. A written determination of the basis for the emergency and for the selection of the particular contractor shall be included in the contract file. The Purchasing Agent shall issue a written notice stating that the contract is being awarded on an emergency basis, and identifying that which is being procured, the contractor selected, and the date on which the contract was or will be awarded. This notice shall be posted on the Department of General Services' central electronic procurement website or other appropriate websites, and in addition, the Purchasing Agent may publish it in a newspaper of general circulation on the day the public body awards or announces its decision to award the contract, whichever occurs first.

(b) The Authority may deem an emergency to exist in the following circumstances:

- (1) A breakdown in machinery or equipment;
- (2) A threatened termination of essential services;
- (3) The development of a dangerous condition;
- (4) Any circumstance causing curtailment or diminution of an essential service; or
- (5) Any circumstance in which materials or services are needed to prevent loss of life or property.

§ 3.7 Purchases at Auction.

(a) Upon a determination made in advance by the Purchasing Agent and set forth in writing that the purchase of goods, products or commodities from a public auction sale is in the best interests of the public, such items may be purchased at the auction, including online public auctions. The writing shall document the basis for this determination. However, bulk purchases of commodities used in road and highway construction and maintenance, and aggregates shall not be made by online public auctions.

(b) The purchase of goods or nonprofessional services, but not construction or professional services, may be made by reverse auctioning. However, bulk purchases of commodities used in road and highway construction and maintenance, and aggregates shall not be made by reverse auctioning.

ARTICLE 4 METHODS OF SOURCE SELECTION and GENERAL REQUIREMENTS

§ 4.1 Methods of Procurement.

(a) Contracts for the purchase or lease of goods, services other than professional services, and insurance shall be procured with competitive sealed bidding.

(b) Professional services shall be procured by competitive negotiation.

(c) Construction must be procured by competitive sealed bidding except that competitive negotiation may be used in the following instances:

- (1) For a fixed price design-build contract or a construction management contract.
- (2) For the construction of highways and any draining, dredging, excavation, grading or similar work upon real property upon a determination, made in advance by the Purchasing Agent and set forth in writing, that competitive sealed bidding is either not practicable or not fiscally advantageous to the public. The writing shall document the basis for this determination.

§ 4.2 Prequalification Generally; Prequalification for Construction.

(a) The Purchasing Agent may prequalify prospective contractors for particular types of supplies, services, insurance, or construction, and limit consideration of bids or proposals to prequalified contractors. The opportunity to prequalify shall be given to any prospective contractor who has not been suspended or debarred under this policy.

(b) The application form to prequalify contractors for construction shall set forth the criteria upon which the qualifications of prospective contractors will be evaluated. The application form shall request of prospective construction contractors only such information as is appropriate for an objective evaluation of all prospective contractors pursuant to such criteria. The form shall allow the prospective contractor seeking prequalification to request, by checking the appropriate box, that all information voluntarily submitted by the contractor pursuant to this subsection shall be considered a trade secret or proprietary information subject to the provisions of § 13.2(f) of this policy. Advance notice shall be given of the deadline for the submission of prequalification applications. The deadline for submission shall be sufficiently in advance of the date set for the submission of bids for such construction so as to allow the procedures set forth in this subsection to be accomplished.

(c) Any contractor that applies for prequalification shall be notified in writing whether they have been prequalified at least 30 days prior to the deadline for submitting bids or proposals under the procurement of the contract for which the prequalification applies. If prospective contractor is denied prequalification, the written notification shall include the reasons for denial and the factual basis of such reasons. Notices of refusal of prequalification shall be kept and made a part of the contract file.

(d) In considering any request for prequalification, the Purchasing Agent shall determine whether the contractor possesses management, financial soundness, and a history of performance that demonstrates the apparent ability to successfully complete all requirements of the contract being procured. The Purchasing Agent may require prospective contractors to submit information that the Purchasing Agent deems pertinent, including samples, financial reports, and references. The Purchasing Agent may employ standard forms designed to elicit necessary information, or may design other forms for that purpose.

(e) Prequalification of a contractor shall not constitute a conclusive determination that the contractor is responsible, and such bidder may be rejected as nonresponsible on the basis of subsequently discovered information.

(f) Failure of a contractor to prequalify with respect to one procurement transaction shall not bar the contractor from seeking prequalification as to other procurement transactions or bidding on procurement transactions that do not require prequalification.

(g) Prequalification may be denied to any contractor only if the Purchasing Agent finds one of the following:

- (1) The contractor does not have sufficient financial ability to perform the contract that would result from such procurement. If a bond is required to ensure performance of a contract, evidence that the contractor can acquire a surety bond from a corporation included on the United States Treasury's list of acceptable surety corporations in the amount and type required by the Authority shall be sufficient to establish the financial ability of the contractor to perform the contract resulting from such procurement;
- (2) The contractor does not have appropriate experience to perform the construction project in question;
- (3) The contractor or any officer, director or owner thereof has had judgments entered against him or her within the past ten years for the breach of contracts for governmental or nongovernmental construction, including, but not limited to, design-build or construction management;
- (4) The contractor has been in substantial noncompliance with the terms and conditions of prior construction contracts with a public body without good cause. If the Authority has not contracted with a contractor in any prior construction contracts, the Purchasing Agent may deny prequalification if the contractor has been in substantial noncompliance with the terms and conditions of comparable construction contracts with another public body without good cause. This provision shall not be used to deny prequalification unless the facts underlying such substantial noncompliance were documented in writing in the prior construction project file and such information relating thereto was given to the contractor at that time, with the opportunity to respond;
- (5) The contractor or any officer, director, owner, project manager, procurement manager or chief financial official thereof has been convicted within the past ten years of a crime related to governmental or nongovernmental construction or contracting, including, but not limited to, a violation of (i) Article 15 of this policy; (ii) Article 6 (Virginia Code, § 2.2-4367 *et seq.*) of the Procurement Act, (iii) the Virginia Governmental Frauds Act (Virginia Code, § 18.2-498.1 *et seq.*), (iv) Chapter 4.2 of Title 59.1 of the Code of Virginia, or (v) any substantially similar law of the United States or another state;
- (6) The contractor or any officer, director or owner thereof is currently debarred pursuant to an established debarment procedure from bidding or contracting by any public body, agency of another state or agency of the federal government; and
- (7) The contractor fails to provide information in a timely manner that is requested by the Purchasing Agent and is relevant to subdivisions 1 through 6 of this subsection.

§ 4.3 Discrimination Prohibited.

In the solicitation or awarding of contracts, the Authority shall not discriminate against a bidder or offeror on the basis of race, religion, color, sex, national origin, age, disability, status as a service disabled veteran, or any other basis prohibited by state law relating to discrimination in employment. Whenever solicitations are made, the Purchasing Agent shall include businesses selected from a list made available by the Department of Small Business and Supplier Diversity.

§ 4.4 Participation of Small, Women, Minority, and Service Disabled Veteran Owned Businesses.

(a) Whenever solicitations are made, the Purchasing Agent shall include businesses selected from a list made available by the Virginia Department of Small Business and Supplier Diversity.

(b) The Purchasing Agent shall place qualified small businesses, women-owned businesses, minority-owned businesses, and service disabled veteran owned businesses, as defined in Virginia Code § 2.2-4310, on solicitation lists used by the Authority. The Purchasing Agent shall use the services and assistance of the Small Business Administration and the Minority Business Development Agency of the United States Department of Commerce, the Virginia Department of Minority Enterprise and other public and private agencies in obtaining the names of qualifying businesses so that their bids may be solicited whenever they are potential sources of goods and services for the Authority.

(c) The Purchasing Agent shall also, when he or she deems it practicable and economically feasible, divide the total bid requirements into smaller tasks or quantities so as to permit maximum participation by qualifying businesses.

§ 4.5 Comments Concerning Specifications.

Comments concerning specifications or other provisions in Invitations to Bid or Requests for Proposals shall be received and considered at conferences with potential contractors prior to the time set for receipt of bids, proposals, or the award of the contract. The Purchasing Agent shall be responsible for scheduling such conferences and providing notice to potential contractors.

§ 4.6 Rejection of Bids or Proposals.

(a) An Invitation to Bid, a Request for Proposal, any other solicitation, or any and all bids or proposals, may be canceled or rejected. The reasons for cancellation or rejection shall be made part of the contract file. The Purchasing Agent shall not cancel or reject an Invitation to Bid, a Request for Proposal, any other solicitation, bid or proposal pursuant to this section solely to avoid awarding a contract to a particular responsive and responsible bidder or offeror.

(b) The Purchasing Agent may waive informalities in bids.

§ 4.7 Contract Pricing Arrangements.

Except as prohibited herein, public contracts may be awarded on a fixed price or cost reimbursement basis, or on any other basis that is not prohibited. Except in cases of emergency affecting the public health, safety or welfare, no contract shall be awarded on the basis of cost plus a percentage of cost (“cost-plus”). If a cost-plus contract is to be used in an emergency situation, a written determination of the basis of the emergency and the selection of the particular contractor shall be included in the contract file. A policy or contract of insurance or prepaid coverage having a premium computed on the basis of claims paid or incurred, plus the insurance carrier’s administrative costs and retention stated in whole or part as a percentage of such claims, shall not be prohibited by this section.

§ 4.8 Multi-Term Contracts.

(a) Unless otherwise provided by law, a contract for goods, services, or insurance may be entered into for any period of time deemed to be in the best interests of the Authority provided the term of the contract and conditions of renewal or extension, if any, are included in the solicitation or request and funds are available for the first fiscal period at the time of contracting. Payment and performance obligations for succeeding fiscal periods shall be subject to the availability and appropriation of funds therefor.

(b) When funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period, the contract shall be canceled.

§ 4.9 Contract Modification.

(a) Any contract award, change order, or contract modification that requires the submission and certification of cost or pricing data shall contain a provision stating that the price, including any profit or fee, excludes any significant increase that the Purchasing Agent finds to be the result of cost or pricing data furnished by the contractor that was inaccurate, incomplete or not current at the time provided.

(b) Provisions for modification of the contract during performance may be included in the contract, but no fixed-price contract may be increased by more than twenty-five percent of the amount of the contract or \$50,000, whichever is greater, without the advance written approval of the Governing Body. In no event may the amount of any contract, without adequate consideration, be increased for any purpose, including, but not limited to, relief of an offeror from the consequences of an error in its bid or offer.

(c) The Purchasing Agent may extend the term of an existing contract for services to allow completion of any work undertaken but not completed during the original term of the contract.

(d) Modifications that fail to comply with this section are voidable at the discretion of the Governing Body, and the unauthorized approval of a modification may not be the basis of a contractual claim brought pursuant to § 12.3 of this policy.

§ 4.10 Retainage on Construction Contracts.

(a) Retainage Limit. In any construction contract which provides for progress payments in installments based upon an estimated percentage of completion, the contractor shall be paid at least 95 percent of the earned sum when payment is due, with no more than five percent being retained to assure faithful performance of the contract. All amounts withheld may be included in the final payment.

(b) Escrow Option for Retainage. When procuring construction of \$200,000 or more of highways, roads, streets, bridges, parking lots, demolition, clearing, grading, excavating, paving, pile driving, miscellaneous drainage structures, and the installation of water, gas, sewer lines and pumping stations, the Invitation to Bid shall include an option for the contractor to use an escrow account procedure for utilization of retainage funds. In the event the contractor elects to use the escrow account procedure, the escrow agreement form included in the Invitation to Bid and Contract shall be executed and submitted to the Purchasing Agent within fifteen calendar days after notification. Otherwise, the contractor shall forfeit his rights to the use of the escrow account procedure. The contractor, the escrow agent, and the surety shall execute an escrow agreement form. The contractor's escrow agent shall be a trust company, bank or savings institution with its principal office located in the Commonwealth. The escrow agreement shall be substantially the same as that used by the Virginia Department of Transportation.

(c) Any subcontract for a public project that provides for similar progress payments shall be subject to the provisions of this section.

§ 4.11 Required Contract Provisions.

(a) Every contract shall contain the Compliance with Immigration Law and Authorization to Transact Business in the Commonwealth clauses set forth in Appendix 2 of this policy.

(b) Every contract that allows subcontracting shall include the Prompt Payment and Interest clause set forth in Appendix 2 of this policy.

(c) Every contract of \$10,000 or more shall contain the Employment Discrimination and Drug-free Workplace clauses set forth in Appendix 2 of this policy.

(d) Additional provisions are required in contracts procured either in part or in whole with federal funds. Please consult Article 14 and Appendices 1 and 2 of this policy prior to issuing a solicitation for any such procurement.

ARTICLE 5 BOND REQUIREMENTS

§ 5.1 Bid Bonds.

(a) Except in cases of emergency, all bids or proposals for nontransportation-related construction contracts in excess of \$500,000 or transportation-related projects authorized under Code §§ 33.1-1233.1-1233.1-12 that are in excess of \$250,000 and partially or wholly funded by the Commonwealth shall be accompanied by a bid bond from a surety company selected by the bidder that is authorized to do business in Virginia, as a guarantee that if the contract is awarded to the bidder, he or she will enter into the contract for the work mentioned in the bid. The amount of the bid bond shall not exceed five percent of the amount bid.

(b) For nontransportation-related construction contracts in excess of \$100,000 but less than \$500,000, where the bid bond requirements are waived, prospective contractors shall be prequalified for each individual project in accordance with § 4.2 of this policy and Virginia Code § 2.2-4317. However, the Purchasing Agent may waive the requirement for prequalification of a bidder with a current Class A contractor license for contracts in excess of \$100,000 but less than \$300,000 upon an advance written determination by the Governing Body that waiving the requirement is in the best interests of the Authority. The Authority may not enter into more than 10 of such contracts per year.

(c) No forfeiture under a bid bond shall exceed the lesser of (i) the difference between the bid for which the bond was written and the next low bid, or (ii) the face amount of the bid bond.

(d) Nothing in this section shall preclude the Purchasing Agent from requiring bid bonds to accompany bids or proposals for construction contracts anticipated to be less than \$500,000 for nontransportation-related projects or \$250,000 for transportation-related projects authorized under Virginia Code §§ 33.1-1233.1-1233.1-12 and partially or wholly funded by the Commonwealth.

§ 5.2 Performance and Payment Bonds.

(a) Upon the award of any (1) construction contract exceeding \$500,000 to any prime contractor; (2) construction contract exceeding \$500,000 awarded to any prime contractor requiring the performance of labor or the furnishing of materials for buildings, structures or other improvements to real property owned or leased by a public body; (3) construction contract exceeding \$500,000 in which the performance of labor or the furnishing of materials will be paid with public funds, or (4) any transportation-related projects exceeding \$350,000 that are partially or wholly funded by the Commonwealth, such contractor shall furnish to the Authority the following bonds:

- (i) A performance bond in the sum of the contract amount conditioned upon the faithful performance of the contract in strict conformity with the plans, specifications and conditions of the contract. For transportation-related

projects authorized under Virginia Code, § 33.1-12, such bond shall be in a form and amount satisfactory to the Purchasing Agent.

- (ii) A payment bond in the sum of the contract amount. The payment bond shall be for the protection of claimants who have and fulfill contracts to supply labor or materials to the prime contractor to whom the contract was awarded, or to any subcontractors, in the prosecution of the work provided for in the contract, and shall be conditioned upon the prompt payment for all material furnished or labor supplied or performed in the prosecution of the work. For transportation-related projects authorized under Virginia Code, § 33.1-12 and partially or wholly funded by the Commonwealth, such bond shall be in a form and amount satisfactory to the Purchasing Agent. “Labor or materials” includes public utility services and reasonable rentals of equipment, but only for periods when the equipment rented is actually used at the site.

(b) Each bond shall be (1) executed by one or more surety companies selected by the contractor that are authorized to do business in Virginia; (2) made payable to the Authority; and (3) filed with the Authority or a designated office or official thereof.

(c) Nothing in this section shall preclude the Purchasing Agent from requiring payment or performance bonds for construction contracts below \$500,000 for nontransportation-related projects or \$350,000 for transportation-related projects authorized under Virginia Code, § 33.1-12 and partially or wholly funded by the Commonwealth.

(d) Nothing in this section shall preclude the contractor from requiring each subcontractor to furnish a payment bond with surety thereon in the sum of the full amount of the contract with such subcontractor conditioned upon the payment to all persons who have and fulfill contracts that are directly with the subcontractor for performing labor and furnishing materials in the prosecution of the work provided for in the subcontract.

(e) The performance and payment bond requirements of Subsection (a) for transportation-related projects that are valued in excess of \$250,000 but less than \$350,000 may only be waived by the Purchasing Agent if the bidder provides evidence, satisfactory to the Purchasing Agent, that a surety company has declined an application from the contractor for a performance or payment bond.

(f) For nontransportation-related construction contracts in excess of \$100,000 but less than \$500,000, where the performance and payment bond requirements are waived, prospective contractors shall be prequalified for each individual project in accordance with § 4.2 of this policy and Virginia Code § 2.2-4317. However, the Purchasing Agent may waive the requirement for prequalification of a bidder with a current Class A contractor license for contracts in excess of \$100,000 but less than \$300,000 upon an advance written determination by the Governing Body that waiving the requirement is in the best interests of the Authority. The Authority may not enter into more than 10 of such contracts per year.

§ 5.3 Action on Performance Bond.

No action against the surety on a performance bond shall be brought unless within one year after (a) completion of the contract, including the expiration of all warranties and guarantees, or (b) discovery of the defect or breach of warranty that gave rise to the action.

§ 5.4 Action on Payment Bonds.

(a) Any claimant who has a direct contractual relationship with the contractor and who has performed labor or furnished material in accordance with the contract documents in furtherance of the work provided in any contract for which a payment bond has been given, and who has not been paid in full before the expiration of 90 days after the day on which the claimant performed the last of the labor or furnished the last of the materials for which he claims payment, may bring an action on the payment bond to recover any amount due for the labor and material. The obligee named in the bond need not be named a party to the action.

(b) Any claimant who has a direct contractual relationship with any subcontractor but who has no contractual relationship, express or implied, with the contractor, may bring an action on the contractor's payment bond only if he or she has given written notice to the contractor within 90 days from the day on which the claimant performed the last of the labor or furnished the last of the materials for which he or she claims payment, stating with substantial accuracy the amount claimed and the name of the person for whom the work was performed or to whom the material was furnished. Notice to the contractor shall be served by registered or certified mail, postage prepaid, in an envelope addressed to the contractor at any place where his or her office is regularly maintained for the transaction of business. Claims for sums withheld as retainages with respect to labor performance or materials furnished shall not be subject to the time limitations stated in this subsection.

(c) Any action on a payment bond must be brought within one year after the day on which the person bringing such action last performed labor or last furnished or supplied materials.

(d) Any waiver of the right to sue on the payment bond required by this section shall be void unless it is in writing, signed by the person whose right is waived, and executed after such person has performed labor or furnished material in accordance with the contract documents.

§ 5.5 Bonds on Other Than Construction Contracts.

The Purchasing Agent may require bid, payment, or performance bonds for contracts for goods or services if provided in the Invitation to Bid or Request for Proposal.

§ 5.6 Alternative Forms of Security.

(a) In lieu of a bid, payment, or performance bond, a bidder may furnish a certified check, cashier's check, or cash escrow in the face amount required for the bond.

(b) If approved by the Authority's attorney, a bidder may furnish a personal bond, property bond, or bank or savings institution's letter of credit on certain designated funds in the face amount required for the bid, payment, or performance bond. Approval shall be granted only upon a determination that the alternative form of security proffered affords protection to the Authority equivalent to a corporate surety's bond.

ARTICLE 6 COMPETITIVE SEALED BIDDING

§ 6.1 Definition.

Competitive sealed bidding is a method of contractor selection, other than for professional services, which includes (a) issuance of a written Invitation to Bid, (b) public notice of the Invitation to Bid, (c) public opening and announcement of all bids received, (d) evaluation of bids based upon the requirements set forth in the Invitation, and (e) award to the lowest responsive and responsible bidder.

§ 6.2 Invitation to Bid.

(a) An Invitation to Bid shall contain or incorporate by reference the specifications and contractual terms and conditions applicable to the procurement, state where bid documents and specifications may be obtained and identify the time and place for opening bids. Unless the Purchasing Agent has provided for prequalification of bidders pursuant to § 4.2 of this policy, the Invitation to Bid shall include a statement of any requisite qualifications of potential contractors. No confidential or proprietary data shall be solicited in any Invitation to Bid.

(b) An Invitation to Bid shall include a provision that requires a bidder organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50 to include in its bid the identification number issued to it by the State Corporation Commission. Any bidder that is not required to be authorized to transact business in the Commonwealth as a foreign business entity under Title 13.1 or Title 50 or as otherwise required by law shall include in its bid a statement describing why the bidder is not required to be so authorized.

(c) Any bidder described in Subsection (b) that fails to provide the required information shall not receive an award unless a waiver of this requirement and the administrative policies and procedures established to implement this section is granted by the Purchasing Agent.

§ 6.3 Multistep Sealed Bidding.

When it is impractical to initially prepare a purchase description to support an award based on prices, an Invitation to Bid may be issued requesting the submission of unpriced offers

followed by an Invitation to Bid limited to those bidders whose offers have been qualified under the criteria set forth in the first solicitation.

§ 6.4 Notice of Invitation to Bid.

(a) Notice of the Invitation to bid shall be posted on the Department of General Services' central electronic procurement website and other appropriate websites at least 10 days prior to the date set for receipt of bids. In addition, notice may also be published in a newspaper of general circulation. Bids may be solicited directly from potential contractors, subject to the requirements of § 4.4 of this policy.

(b) The notice of Invitation to Bid shall include a general description of the goods or services to be purchased, the location where bid documents and specifications may be obtained, and the time and place for opening bids.

§ 6.5 Use of Brand Names.

Unless otherwise provided in the Invitation to Bid, the name of a certain brand, make or manufacturer shall not restrict bidders to the specific brand, make or manufacturer named and shall be deemed to convey the general style, type, character, and quality of the article desired. Any article that the Purchasing Agent, in his or her sole discretion, determines to be the equal of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, shall be accepted.

§ 6.6 Bid Openings.

Sealed bids shall be opened publicly in the presence of one or more witnesses at the time and place designated in the Invitation to Bid. The name of each bidder and the amount of each bid shall be recorded along with any other relevant information deemed appropriate by the Purchasing Agent. The contract record and each bid shall be open to public inspection as provided in § 13.2 of this policy.

§ 6.7 Evaluation of Bids.

(a) Evaluation of bids shall be based upon the requirements set forth in the invitation, which may include special qualifications of potential contractors, lifecycle costing, value analysis, and any other criteria such as inspection, testing, quality, workmanship, delivery, and suitability for a particular purpose, which are helpful in determining acceptability.

(b) If the Purchasing Agent determines that the apparent low bidder is not responsible, he or she shall proceed as follows:

- (1) Prior to the issuance of a written determination of nonresponsibility, the Purchasing Agent shall (i) notify the apparent low bidder in writing of the results of the evaluation, (ii) disclose the factual support for the determination, and (iii) allow the apparent low bidder an opportunity to

inspect any documents that relate to the determination, if so requested by the bidder within five business days after receipt of the notice.

- (2) Within 10 business days after receipt of the notice, the bidder may submit rebuttal information challenging the evaluation. The Purchasing Agent shall issue a written determination of responsibility based on all information in its possession, including any rebuttal information, within five business days of the date the Purchasing Agent received the rebuttal information. At the same time, the Purchasing Agent shall notify, with return receipt requested, the bidder in writing of the determination.
- (3) Such notice shall state the basis for the determination which shall be final unless the bidder appeals the decision within 10 days after receipt of the notice by filing a letter of appeal pursuant to the administrative appeals procedure described in § 12.4 or by instituting legal action pursuant to § 12.6 of this policy.
- (4) If, upon appeal, it is determined that the decision of the Purchasing Agent was (i) not an honest exercise of discretion, but rather was arbitrary or capricious or (ii) not in accordance with the Constitution of Virginia, applicable state law or regulation, or the terms or conditions of the Invitation to Bid, and the award of the contract in question has not been made, the sole relief shall be a finding that the bidder is a responsible bidder for the contract in question. If it is determined that the decision of the Purchasing Agent was (i) not an honest exercise of discretion, but rather was arbitrary or capricious or (ii) not in accordance with the Constitution of Virginia, applicable state law or regulation, or the terms or conditions of the Invitation to Bid and the contract has been awarded, the relief shall be as set forth in § 12.2(b) of this policy.
- (5) A bidder contesting a determination that he or she is not a responsible bidder for a particular contract shall proceed under this section, and may not protest the award or proposed award under § 12.2 of this policy.
- (6) Nothing herein shall require the Authority to furnish a statement of the reasons why a particular proposal was not deemed to be the most advantageous when procuring by competitive negotiation.

§ 6.8 Award of Contract.

(a) A contract shall be awarded to the lowest responsive and responsible bidder. When the terms and conditions of multiple bids are so provided in the Invitation to Bid, awards may be made to more than one bidder.

(b) Unless cancelled or rejected, a responsible bid from the lowest responsible bidder shall be accepted as submitted, except that if the bid from the lowest responsible bidder exceeds budgeted funds, the Purchasing Agent may negotiate with the apparent low bidder to obtain a

contract price within budgeted funds. The negotiations should be conducted in accordance with the following procedures:

- (1) The Purchasing Agent shall advise the lowest responsible bidder, in writing, that the low bid exceeds the Authority's funds budgeted the procurement. He or she may suggest a reduction in scope for the proposed purchase, and invite the lowest responsible bidder to amend its bid proposal.
- (2) Repetitive informal discussions may be conducted with the lowest responsible bidder for purposes of obtaining a contract within the Authority's budgeted funds.
- (3) The lowest responsible bidder may submit an addendum to its bid that includes the change in scope for the proposed purchase, the reduction in price, and the new contract value.
- (4) If the proposed addendum is acceptable to the Authority, the Purchasing Agent should award a contract within its budgeted funds to the lowest responsible bidder based upon the amended bid.
- (5) If the Purchasing Agent and the lowest responsible bidder cannot negotiate a contract within the Authority's budgeted funds, all bids should be rejected.

(c) When the award is not given to the lowest bidder, a full and complete statement of the reasons for placing the order elsewhere shall be prepared by the Purchasing Agent and made a part of the contract record.

§ 6.9 Tie Bids; Preference Matching.

(a) In the case of a tie bid, preference shall be given to goods produced in Virginia, goods or services or construction provided by Virginia persons, firms or corporations; otherwise the tie shall be decided by lot.

(b) Whenever the lowest responsive and responsible bidder is a resident of any other state and such state under its laws allows a resident contractor of that state a percentage preference, a like preference shall be allowed to the lowest responsive and responsible bidder who is a resident of Virginia and is the next lowest bidder. If the lowest responsive and responsible bidder is a resident of any other state and such state under its laws allows a resident contractor of that state a price-matching preference, a like preference shall be allowed to responsive and responsible bidders who are residents of Virginia. If the lowest bidder is a resident contractor of a state with an absolute preference, the bid shall not be considered. The Purchasing Agent may rely upon information posted on the website for the Department of General Services for the purposes of compliance with this subsection.

(c) Notwithstanding the provisions of Subsections (a) and (b), in the case of a tie bid in instances where goods are being offered, and existing price preferences have already been taken into account, preference shall be given to the bidder whose goods contain the greatest amount of recycled content.

(d) For the purposes of this section, a Virginia person, firm or corporation shall be deemed to be a resident of Virginia if such person, firm or corporation has been organized pursuant to Virginia law or maintains a principal place of business within Virginia.

§ 6.10 Withdrawal of Bid Due to Error.

(a) A bidder for a public construction contract, other than a contract for construction or maintenance of public highways, may withdraw his or her bid from consideration if the price bid was substantially lower than the other bids due solely to a mistake in the bid, provided the bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgment mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn.

If a bid contains both clerical and judgment mistakes, a bidder may withdraw his or her bid from consideration if the price bid would have been substantially lower than the other bids due solely to the clerical mistake, that was an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a bid that shall be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn.

(b) The bidder shall give notice in writing of any claim of right to withdraw his or her bid within two business days after the conclusion of the bid opening procedure and shall submit original work papers with such notice. The mistake shall be proved only from the original work papers, documents and materials delivered as required herein. The work papers, documents and materials submitted by the bidder shall, at the bidders request, be considered trade secrets or proprietary information subject to the conditions of § 13.2(f) of this policy and Virginia Code § 2.2-4342(F).

(c) No bid may be withdrawn under this section when the result would be the awarding of the contract on another bid of the same bidder or to another bidder in which the ownership of the withdrawing bidder is more than five percent.

(d) If a bid is withdrawn under the authority of this section, the lowest remaining bid shall be deemed to be the low bid.

(e) No bidder who is permitted to withdraw a bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to

whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn bid was submitted.

(f) The Purchasing Agent shall notify the bidder in writing within five business days of the decision regarding the bidder's request to withdraw its bid. If the Purchasing Agent denies the withdrawal of a bid under the provisions of this section, it shall state in the notice the reason for its decision and award the contract to such bidder at the bid price, provided such bidder is a responsible and responsive bidder. At the same time that the notice is provided, the Purchasing Agent shall return all work papers and copies thereof that have been submitted by the bidder.

(g) A decision denying withdrawal of bid shall be final and conclusive unless the bidder appeals the decision within 10 days after receipt of the decision by invoking the administrative appeals procedure provided in § 12.4 or instituting legal action as provided in § 12.6 of this policy.

(h) If no bid bond was posted, a bidder shall, prior to appealing, deliver to the Purchasing Agent a certified check or cash bond in the amount of the difference between the bid sought to be withdrawn and the next lowest bid. Such security shall be released only upon a final determination that the bidder was entitled to withdraw the bid.

(i) If, upon appeal, it is determined that the decision refusing withdrawal of the bid was (i) not an honest exercise of discretion, but rather was arbitrary or capricious or (ii) not in accordance with the Constitution of Virginia, applicable state law or regulation, or the terms or conditions of the Invitation to Bid, the sole relief shall be withdrawal of the bid.

ARTICLE 7 COMPETITIVE NEGOTIATION

§ 7.1 Definition.

Competitive negotiation is a method of procurement which includes (a) issuance of a written Request for Proposal, (b) public notice of the Request for Proposal, and (c) negotiations between the Authority and individual offerors.

§ 7.2 Request for Proposals.

(a) A Request for Proposal shall be in writing and indicate in general terms that which is sought to be procured, specifying the factors which will be used in evaluating the proposal, indicating whether a numerical scoring system will be used in evaluation of the proposal, and containing or incorporating by reference the other applicable contractual terms and conditions, including any unique capabilities or qualifications which will be required of the contractor. In the event that a numerical scoring system will be used in the evaluation of proposals, the point values assigned to each of the evaluation criteria shall be included in the Request for Proposal or posted at the location designated for public posting of procurement notices prior to the due date and time for receiving proposals.

(b) A Request for Proposal shall include a provision that requires an offeror organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50 to include in its proposal the identification number issued to it by the State Corporation Commission. Any offeror that is not required to be authorized to transact business in the Commonwealth as a foreign business entity under Title 13.1 or Title 50 or as otherwise required by law shall include in its proposal a statement describing why the offeror is not required to be so authorized.

(c) Any offeror described in Subsection (b) that fails to provide the required information shall not receive an award unless a waiver of this requirement is granted by the Purchasing Agent.

§ 7.3 Public Notice.

Notice of the Request for Proposal shall be posted on the Department of General Services' central electronic procurement website and other appropriate websites at least 10 days prior to the date set for receipt of proposals. In addition, the notice may be published in one or more newspapers of general circulation in the area in which the contract is to be performed. Proposals may be solicited directly from potential contractors, subject to the requirements of § 4.4 of this policy.

§ 7.4 Negotiations for Professional Services.

(a) The Purchasing Agent shall engage in individual discussions with two or more offerors deemed fully qualified, responsible and suitable on the basis of initial responses and with emphasis on professional competence, to provide the required services. Repetitive informal interviews shall be permissible. The offerors shall be encouraged to elaborate on their qualifications and performance data or staff expertise pertinent to the proposed project as well as alternative concepts. In addition, offerors shall be informed of any ranking criteria that will be used by the Purchasing Agent in addition to the review of the professional competence of the offeror. The Request for Proposal shall not, however, request that offerors furnish estimates of man-hours or cost for services. As the discussion stage, the Purchasing Agent may discuss nonbinding estimates of total project costs, including, but not limited to, life-cycle costing, and where appropriate, nonbinding estimates of price for services. Proprietary information from competing offerors shall not be disclosed to the public or to competitors. For architectural or engineering services, offerors shall not be required to list exceptions to proposed contractual terms and conditions, unless required by applicable law, until after the qualified offerors are ranked for negotiations.

At the conclusion of discussion, outlined herein, on the basis of evaluation factors published in the Request for Proposal and all information developed in the selection process to this point, the Purchasing Agent shall select in the order of preference two or more offerors whose professional qualifications and proposed services are deemed most meritorious.

Negotiations shall then be conducted, beginning with the offeror ranked first. If a contract satisfactory and advantageous to the Authority can be negotiated at a price considered

fair and reasonable, the award shall be made to that offeror. Otherwise, negotiations with the offeror ranked first shall be formally terminated and negotiations conducted with the offeror ranked second, and so on until such a contract can be negotiated at a fair and reasonable price. If the terms and conditions for multiple awards are included in the Request for Proposal, the Purchasing Agent may award contracts to more than one offeror. Should the Purchasing Agent determine in writing and in his or her sole discretion that only one offeror is fully qualified, or that one offeror is clearly more highly qualified and suitable than the others under consideration, a contract may be negotiated and awarded to that offeror.

(b) A contract for architectural or professional engineering services relating to construction projects may be negotiated for multiple projects provided (1) the projects require similar experience and expertise, (2) the nature of the projects is clearly identified in the Request for Proposal, and (3) the contract term is limited to one year or when the cumulative total project fees reach the maximum cost authorized in this subsection, whichever occurs first.

Such contracts may be renewable for four additional one-year terms at the option of the Authority. The fair and reasonable prices as negotiated shall be used in determining the cost of each project performed. The sum of all projects performed in one contract term shall not exceed \$750,000.

The project fee for any single project for architectural or professional engineering services relating to construction projects shall not exceed \$150,000. Any unused amounts from a contract term may not be carried forward to subsequent terms.

Competitive negotiations for such contracts may result in awards to more than one offeror provided (1) the Request for Proposal so states and (2) the Authority has established procedures for distributing multiple projects among the selected contractors during the contract term. Such procedures shall prohibit requiring the selected contractors to compete for individual projects based on price.

(c) Multiphase professional services contracts satisfactory and advantageous to the Authority for completion of large, phased, or long-term projects may be negotiated and awarded based upon qualifications at a fair and reasonable price for the first phase only, when completion of the earlier phases is necessary to provide information critical to the negotiation of a fair and reasonable price for succeeding phases. Prior to the procurement of any such contract, the Purchasing Agent shall state the anticipated intended total scope of the project and determine in writing that the nature of the work is such that the best interests of the Authority require awarding the contract.

§ 7.5 Negotiations For Other than Professional Services.

Selection shall be made of two or more offerors deemed to be fully qualified and best suited among those submitting proposals, on the basis of the factors involved in the Request for Proposal, including price if so stated in the Request for Proposal. Negotiations shall then be conducted with each of the offerors so selected. Price shall be considered, but need not be the sole or primary determining factor. After negotiations have been conducted with each offeror so

selected, the Purchasing Agent shall select the offeror which, in his or her opinion, has made the best proposal, and shall award the contract to that offeror. When the terms and conditions of multiple awards are so provided in the Request for Proposal, awards may be made to more than one offeror. Should the Purchasing Agent determine in writing and in his or her sole discretion that only one offeror is fully qualified, or that one offeror is clearly more highly qualified than the others under consideration, a contract may be negotiated and awarded to that offeror.

ARTICLE 8 JOB ORDER CONTRACTS

§ 8.1 Approval of Use.

The Purchasing Agent may award a job order contract for multiple jobs, provided (a) the jobs require similar experience and expertise; (b) the nature of the jobs is clearly identified in the solicitation; and (c) the contract is limited to a term of one year or when the cumulative total project fees reach the maximum authorized by § 8.2 of this policy, whichever occurs first. Contractors may be selected through either competitive sealed bidding or competitive negotiation.

§ 8.2 General Requirements.

Job order contracts may be renewed by the Purchasing Agent for up to two additional one-year terms. The fair and reasonable prices as negotiated shall be used in determining the cost of each job performed, and the sum of all jobs performed in a one-year contract term shall not exceed \$6 million. Individual job orders shall not exceed \$500,000. Any unused amounts from one contract term shall not be carried forward to any additional term.

§ 8.3 Restrictions.

(a) Order splitting with the intent of keeping a job order under the maximum dollar amounts prescribed in § 8.2 of this policy is prohibited.

(b) Job order contracting may not be used solely for the purpose of purchasing professional architectural or engineering services that constitute the practice of architecture or the practice of engineering as those terms are defined in Code of Virginia § 54.1-400. However, professional architectural or engineering services may be included on a job order where such professional services are (i) incidental and directly related to the job; (ii) do not exceed \$25,000 per job order; and (iii) do not exceed \$75,000 per contract term.

(c) Job order contracting may not be used for construction, maintenance, or asset management services for a highway, bridge, tunnel, or overpass. However, job order contracting may be used for safety improvements or traffic calming measures for individual job orders up to \$250,000, subject to the maximum annual threshold established above.

ARTICLE 9

DESIGN-BUILD and CONSTRUCTION MANAGEMENT CONTRACTS

§ 9.1 Approval of Use.

The Authority may procure contracts for construction on a fixed price or not-to-exceed price design-build or construction management basis in accordance with the provisions of this Article.

§ 9.2 General Requirements.

(a) Professional Advisor. Prior to electing to use a design-build or construction management contract for a specific construction project, the Purchasing Agent shall hire a licensed architect or professional engineer (the “Professional Advisor”) with professional competence appropriate to the project who shall advise the Purchasing Agent regarding the use of design-build or construction management for the project and who shall assist the Purchasing Agent with the preparation of the Request for Qualifications, Request for Proposal, and the evaluation thereof.

(b) Eligibility Requirements. Prior to procuring a design-build or construction management contract, the Purchasing Agent shall issue a written determination that competitive sealed bidding is not practical or fiscally advantageous and document the basis for the determination to utilize design-build or construction management.

(c) Evaluation Committee. An Evaluation Committee of not less than three members shall be appointed by the Purchasing Agent to review and evaluate submittals. To the extent possible, the Evaluation Committee shall include one licensed professional architect or professional engineer. The Professional Advisor may be a member of the Evaluation Committee. Members of the Evaluation Committee may be employees of the Authority or City of Harrisonburg, but may not be officers, directors, owners or employees of or otherwise affiliated with any offeror or potential offeror.

(d) Reporting Requirements. The Purchasing Agent shall report no later than November 1 of each year to the Director of the Department of General Services on all completed design build or construction management projects in excess of \$2 million, including (1) the procurement method utilized, (2) the project budget, (3) the actual project cost, (4) the expected timeline, (5) the actual completion time, and (6) any post-project issues.

§ 9.3 Design-Build Procurement Procedure.

Design-build contracts shall be procured using the following two-step competitive negotiation process:

(a) Selection of Qualified Offerors.

- (1) Request for Qualifications. The Purchasing Agent shall issue a Request for Qualifications inviting potential offerors to submit their qualifications as both “designer” and “builder” of the construction. The Professional Advisor shall assist the Purchasing Agent in preparing the Request for Qualifications. The Request for Qualifications shall describe in general terms the particular construction and specify all factors that will be used in evaluating potential offerors’ qualifications. The Request for Qualifications shall also contain or incorporate by reference other applicable contractual terms and conditions, including any unique capabilities or qualifications required for the project. The Request for Qualifications shall request only such information as is appropriate for an objective evaluation of all potential offerors pursuant to the criteria in the Request for Qualifications.

Notice of the Request for Qualifications shall be published at least 10 days prior to the deadline for qualification submittals by posting in a public area normally used for posting of public notices and by posting on the On-Line Bids page eVa, Virginia’s electronic procurement website, at <http://eva.virginia.gov>. In addition, the notice shall be published in a newspaper of general circulation in the area in which the contract is to be performed. The intent of publication is to provide reasonable notice to the maximum number of potential offerors that can be reasonably anticipated to submit qualifications in response to the Request for Qualifications.

- (2) Review. The Evaluation Committee shall evaluate the qualification submittals based on the criteria set forth in the Request for Qualifications. Additional information submitted by potential offerors can be considered by the Evaluation Committee. The Evaluation Committee shall select and prequalify two to five offerors that it deems most qualified and suitable for the project.

Within a reasonable time after review of all qualification submittals, but no less than 30 days prior to the deadline for submission of proposals, all potential offerors shall be notified in writing whether they been prequalified. If an offeror is denied prequalification, the notice shall include the reasons for denial and the factual basis of those reasons. Potential offerors may be denied prequalification only upon those grounds specified in § 4.2(g) of this policy.

(b) Selection of Contractor.

- (1) Request for Proposals. The Purchasing Agent shall issue a Request for Proposals to the offerors prequalified by the Evaluation Committee. The Professional Advisor shall assist the Purchasing Agent in preparing the

Request for Proposals. The Request for Proposals shall request that offerors submit separate sealed Technical Proposals and Cost Proposals. Cost Proposals shall be secured and kept sealed until evaluation of all Technical Proposals is completed.

The Request for Proposals shall define the criteria to be used by the Evaluation Committee to evaluate each proposal. In addition, the Request for Proposals shall include and define the criteria of the specific construction project in areas such as site plans; floor plans; exterior elevations; basic building envelope materials; fire protection information plans; structural, mechanical (HVAC), and electrical systems; and special telecommunications. The Request for Proposals may also define such other requirements as the Purchasing Agent deems appropriate for that particular construction project.

Qualified offerors may comment on the specifications or other provisions of the Request for Proposals prior to the deadline for submission. Any comments made prior to the deadline for proposal submission will be considered by the Evaluation Committee when reviewing the Technical Proposals.

- (2) Review of Technical Proposals. The Evaluation Committee shall evaluate each of the Technical Proposals based on the criteria set forth in the Request for Proposals. As a part of the evaluation process, the Evaluation Committee shall grant each of the offerors an equal opportunity for direct and private communication with the Evaluation Committee. Each offeror shall be allotted the same fixed amount of time. The Evaluation Committee shall exercise care to discuss the same information with all offerors. The Evaluation Committee shall inform each offeror of any adjustments necessary to make its Technical Proposal fully comply with the requirements of the Request for Proposals. The Evaluation Committee shall not disclose any trade secret or proprietary information for which the offeror has invoked protection pursuant to § 13.2(f) of this policy and § 2.2-4342(F) of the Procurement Act.

Based upon its review of the Technical Proposals, the Evaluation Committee shall determine whether any changes to the Request for Proposals should be made to clarify errors, omissions or ambiguities or to incorporate project improvements or additional details, or both, identified by the Evaluation Committee during its review. If such changes are required, an addendum shall be provided to each offeror.

Based on any revisions to the Technical Proposals, the offeror may amend its Cost Proposal. In addition, an offeror may submit cost modifications to its sealed Cost Proposal which are not based upon revisions to the Technical Proposals.

- (3) Review of Cost Proposal. At the conclusion of this process, the Evaluation Committee shall publicly open, read aloud, and tabulate the Cost Proposals. The Evaluation Committee shall add to or deduct from the appropriate Cost Proposal any cost adjustments contained in amendments submitted by an offeror.
- (4) Selection of Contractor. The Evaluation Committee shall make its recommendation on the selection of the design-builder to the Purchasing Agent based on its evaluation and negotiations. Unless otherwise specified in the Request for Proposals, the design-build contract shall be awarded to the fully qualified offeror who submits an acceptable proposal determined to be the best value in response to the Request for Proposal. When the terms and conditions of multiple awards are so provided in the Request for Proposals, awards may be made to more than one offeror.

The Purchasing Agent shall notify all offerors who submitted proposals which offeror was selected for the project. Upon request, documentation of the process used for the final selection shall be made available to the unsuccessful offerors.

§ 9.4 Construction Management Procurement.

(a) Prerequisites for Use. Construction management contracts may be procured (1) for any project whose cost is expected to exceed \$10 million; and (2) any complex project whose cost is less than \$10 million and construction management has been approved by the Governing Body. A “complex project” is a construction project that includes difficult site location, unique equipment, specialized building systems, multifaceted program, accelerated schedule, historic designation, or intricate phasing or some other aspect that makes competitive sealed bidding impractical. The written approval of the Governing Body shall be maintained in the procurement file.

(b) Procurement Procedure. Construction management contracts shall be procured using the following two-step competitive negotiation process:

- (1) Selection of Qualified Offerors.
 - (i) Request for Qualifications. The Purchasing Agent shall issue a Request for Qualifications inviting potential offerors to submit their qualifications for coordinating and administering contracts for construction services. The Professional Advisor shall assist the Purchasing Agent in preparing the Request for Qualifications. The Request for Qualifications shall describe in general terms the particular construction projects and specify all factors that will be used in evaluating potential offerors’ qualifications. The Request for Qualifications shall also contain or incorporate by reference

other applicable contractual terms and conditions, including any unique capabilities or qualifications required for the project. The Request for Qualifications shall request only such information as is appropriate for an objective evaluation of all potential offerors pursuant to the criteria in the Request for Qualifications.

Notice of the Request for Qualifications shall be posted on the Department of General Services' central electronic procurement website at least 30 days prior to the deadline for qualification submittals. In addition, the notice may also be published in a newspaper of general circulation in the area in which the contract is to be performed.

- (ii) Review. The Evaluation Committee shall evaluate the qualification submittals based on the criteria set forth in the Request for Qualifications. Additional information submitted by potential offerors can be considered by the Evaluation Committee. The Evaluation Committee shall select and prequalify two to five offerors that it deems most qualified and suitable for the project.

Within a reasonable time after review of all qualification submittals, but no less than 30 days prior to the deadline for submission of proposals, all potential offerors shall be notified in writing whether they been prequalified. If an offeror is denied prequalification, the notice shall include the reasons for denial and the factual basis of those reasons. Potential offerors may be denied prequalification only upon those grounds specified in § 4.2(g) of this policy.

(2) Selection of Contractor.

- (i) Request for Proposals. The Purchasing Agent shall issue a Request for Proposals to the offerors prequalified by the Evaluation Committee. The Professional Advisor shall assist the Purchasing Agent in preparing the Request for Proposals.

The Request for Proposals shall define the criteria to be used by the Evaluation Committee to evaluate each proposal. In addition, the Request for Proposals shall include and define the criteria of the specific construction project in areas such as site plans; floor plans; exterior elevations; basic building envelope materials; fire protection information plans; structural, mechanical (HVAC), and electrical systems; and special telecommunications. The Request for Proposals may also define such other requirements as the Purchasing Agent deems appropriate for that particular construction project.

Qualified offerors may comment on the specifications or other provisions of the Request for Proposals prior to the deadline for submission. Any comments made prior to the deadline for proposal submission will be considered by the Evaluation Committee when reviewing the proposals.

- (ii) Evaluation of Proposals. The Evaluation Committee shall evaluate each of the proposals based on the criteria set forth in the Request for Proposals. After evaluating the proposals, the Evaluation Committee shall conduct negotiations with two or more offerors submitting the highest ranked proposals, or, if the Purchasing Agent determines, in writing and at his or her sole discretion, that only one offeror is fully qualified or that one offeror is clearly more highly qualified than the others under consideration, a contract may be negotiated and awarded to that offeror.
- (iii) Award of Contract. The Evaluation Committee shall make its recommendation on the selection of the construction manager to the Purchasing Agent based on its evaluation and negotiations. The construction management contract shall be awarded to the fully qualified offeror who submits an acceptable proposal determined to be the best value in response to the Request for Proposal. Price shall be a critical basis for awarding the contract. Prior construction management experience may be considered but is not required as a prerequisite for award of a contract. When the terms and conditions of multiple awards are so provided in the Request for Proposals, awards may be made to more than one offeror. The contract must be entered into no later than the completion of the schematic phase of design, unless prohibited by authorization of funding restrictions.

The Purchasing Agent shall notify all offerors who submitted proposals which offeror was selected for the project. Upon request, documentation of the process used for the final selection shall be made available to the unsuccessful offerors.

(c) Required Terms for Construction Management Contracts.

Any construction management contract entered into by the Authority shall contain provisions requiring that (1) not more than 10 percent of the construction work (measured by cost of the work) will be performed by the construction manager with its own forces; and (2) that the remaining 90 percent of the construction work will be performed by subcontractors of the construction manager which the construction manager must procure by publicly advertised, competitive sealed bidding, to the maximum extent practicable.

ARTICLE 10

COOPERATIVE PROCUREMENT

§ 10.1 Conditions for Use.

The Authority may participate in, sponsor, conduct or administer a joint procurement agreement in conjunction with one or more other public bodies, or public agencies or institutions or localities of the several states, of the United States or its territories, the District of Columbia, the U.S. General Services Administration, or the Metropolitan Washington Council of Governments, for the purpose of combining requirements to increase efficiency or reduce administrative expenses in any acquisition of goods, services, or construction.

Any public body that enters into a cooperative procurement agreement with the Authority shall comply with the policies and procedures herein, except that if the Authority enters into a cooperative procurement agreement with a county, city or town that has alternative policies and procedures adopted pursuant to subsections (A)(9) or (A)(10) of § 2.2-4343 of the Procurement Act, the Authority shall comply with those policies and procedures.

ARTICLE 11

DEBARMENT

§ 11.1 Authority to Debar.

The Purchasing Agent may, in the public interest, debar a prospective contractor from participating in the Authority's competitive procurement. The seriousness of the grounds and any mitigating factors should be considered in making any debarment decision.

§ 11.2 Grounds for Debarment.

The Purchasing Agent may debar a prospective contractor for any of the following grounds:

- (a) Conviction of or entry of a civil judgment for
 - (1) Fraud or any criminal offense in connection with obtaining, attempting to obtain, or performing a public contract or subcontract.
 - (2) Violating federal or state antitrust statutes relating to the submission of offers.
 - (3) Embezzlement, theft, forgery, bribery, falsification, destruction of records, making false statements, or receiving stolen property.
 - (4) Any other offense that reflects a lack of business integrity or business honesty and directly affects the responsibility of a contractor or subcontractor.
- (b) Breach of the terms of a government contract or subcontract so serious as to justify debarment, including:
 - (1) Willfully failing to perform in accordance with the terms of a contract.

- (2) A history of failing to perform or of performing unsatisfactorily under a contract.
- (3) Any other cause of so serious or compelling that it affects the present responsibility of a contractor or subcontractor.

§ 11.3 Debarment Procedure.

- (a) Notice of consideration. The prospective contractor shall be advised that debarment is being considered. The notice should be by certified mail, return receipt requested. The notice shall include the reasons for the proposed debarment.
- (b) Challenge. Within 10 days of the date of the notice, the prospective contractor may submit information challenging the proposed debarment.
- (c) Decision. The Purchasing Agent shall render a written decision within 5 days of receiving the prospective contractor's rebuttal information. Any debarment should be for a time period that reflects the seriousness of the cause.
- (d) Appeal. The Purchasing Agent's decision is final unless the prospective contractor appeals the decision within 10 days after receipt by invoking the administrative appeals procedure provided in § 12.4 or instituting legal action pursuant to § 12.6 of this policy.

ARTICLE 12 APPEALS and REMEDIES

§ 12.1 Ineligibility of Bidder, Offeror or Contractor.

(a) Any bidder, offeror or contractor refused permission to participate, or disqualified from participation, in public contracts shall be notified in writing. Prior to the issuance of a written determination of disqualification or ineligibility, the Purchasing Agent shall (1) notify the bidder in writing of the results of the evaluation, (2) disclose the factual support for the determination, and (3) allow the bidder an opportunity to inspect any documents that relate to the determination, if so requested by the bidder within five business days after receipt of the notice.

Within 10 business days after receipt of the notice, the bidder may submit rebuttal information challenging the evaluation. The Purchasing Agent shall issue its written determination of disqualification or ineligibility based on all information its possession, including any rebuttal information, within five business days of the date the Purchasing Agent received such rebuttal information.

If the evaluation reveals that the bidder, offeror or contractor should be allowed permission to participate in the public contract, the Purchasing Agent shall cancel the proposed disqualification action. If the evaluation reveals that the bidder should be refused permission to participate, or disqualified from participation, in the public contract, the Purchasing Agent shall so notify the bidder, offeror or contractor. The notice shall state the basis for the determination,

which shall be final unless the bidder appeals the decision within 10 days after receipt of the notice by invoking the administrative appeal procedure provided in § 12.4 or instituting legal action as provided in § 12.6 of this policy.

(b) If, upon appeal, it is determined that the action taken was arbitrary or capricious, or not in accordance with the Constitution of Virginia, applicable state law or regulations, the sole relief shall be restoration of eligibility.

§ 12.2 Protest of Award or Decision to Award.

(a) Any bidder or offeror may protest the award or decision to award a contract by submitting the protest in writing to the Purchasing Agent no later than 10 days after the award or the announcement of the decision to award, whichever occurs first. Public notice of the award or the announcement of the decision to award shall be given in the manner prescribed in the terms or conditions of the Invitation to Bid or Request for Proposal. Any potential bidder or offeror on a contract negotiated on a sole source or emergency basis who desires to protest the award or decision to award such contract shall submit the protest in the same manner no later than 10 days after posting or publication of the notice of such contract. However, if the protest of any actual or potential bidder or offeror depends in whole or in part upon information contained in public records pertaining to the procurement transaction that are subject to inspection, then the time within which the protest shall be submitted shall expire 10 days after those records are available for inspection by such bidder or offeror, or at such later time as provided in this section. The written protest shall include the basis for the protest and the relief sought. No protest shall lie for a claim that the selected bidder or offeror is not a responsible bidder or offeror. The Purchasing Agent shall issue a decision in writing within 10 days stating the reasons for the action taken. This decision shall be final unless the bidder or offeror appeals within 10 days of the written decision by invoking the administrative procedures described § 12.4 or instituting legal action as provided in § 12.6 of this policy. Nothing in this subsection shall be construed to permit a bidder to challenge the validity of the terms or conditions of the Invitation to Bid or Request for Proposal.

(b) If prior to an award it is determined that the decision to award is arbitrary or capricious, then the sole relief shall be a finding to that effect. The Purchasing Agent shall cancel the proposed award or revise it to comply with the law. If, after an award, it is determined that an award of a contract was arbitrary or capricious, then the sole relief shall be as hereinafter provided. Where the award has been made but performance has not begun, the performance of the contract may be enjoined. Where the award has been made and performance has begun, the Purchasing Agent may declare the contract void upon a finding that this action is in the best interest of the public. Where a contract is declared void, the performing contractor shall be compensated for the cost of performance up to the time of such declaration. In no event shall the performing contractor be entitled to lost profits.

(c) Where the Purchasing Agent determines, after a hearing held following reasonable notice to all bidders, that there is probable cause to believe that a decision to award

was based on fraud or corruption or on an act in violation of Article 15, the Purchasing Agent may enjoin the award of the contract to a particular bidder.

(d) An award need not be delayed for the period allowed a bidder or offeror to protest, but in the event of a timely protest, no further action to award the contract will be taken unless there is a written determination that proceeding without delay is necessary to protect the public interest or unless the bid or offer would expire.

§ 12.3 Contractual Disputes.

All contractual claims for money or other relief shall be adjudicated using the following procedure, which shall be included or incorporated by reference in every contract:

(a) Notice. The contractor shall give written notice of his or her intention to file a contractual claim to the Executive Director at the time of the event or the beginning of the work upon which the claim is based.

(b) Claim. Contractual claims must be submitted in writing to the Executive Director no later than 60 days after final payment.

(c) Decision. The Executive Director or an authorized designee shall make a written decision addressing the claim within 90 days of submission.

(d) Appeal. The decision of the Executive Director shall be final and conclusive unless the contractor appeals within six months of the date of the final decision on the claim by invoking administrative procedures or instituting legal action. A contractor may not invoke administrative procedures or institute legal action prior to receipt of the Authority's decision on the claim, unless the Authority fails to render such decision within the time period specified in Subsection (c).

§ 12.4 Administrative Appeals Procedure.

(a) Appealable Decisions. Any contractor may appeal a decision on a contract claim. In addition, any bidder or offeror, or person debarred or denied prequalification, may appeal:

- (1) An award or a decision to award a contract.
- (2) A decision refusing to allow the withdrawal of the appellant's bid.
- (3) A denial of the appellant's prequalification.
- (4) The appellant's debarment.
- (5) A determination of the appellant's nonresponsibility.

(b) Appeals Process. Any protest or appeal pursuant to this section shall be in accordance with the following administrative procedures:

- (1) The appellant shall submit a written letter of appeal to the Executive Director within 10 days of the date of the decision being appealed. The letter of appeal must include the basis for the appeal and the relief sought, and whether the contractor wishes to have a hearing.
- (2) If no hearing is requested, the Executive Director or a designee, shall render a written decision within 10 days of receiving the letter of appeal.
- (3) If a hearing is requested, it shall be held within 10 days of receipt of the letter of appeal, and a final decision shall be rendered within 10 days of the hearing. During the hearing, the appellant shall have the opportunity to present pertinent information and to cross-examine adverse witnesses. The hearing shall be an informal administrative proceeding rather than a judicial-type trial, and it will be conducted by a disinterested person appointed by the Executive Director and who is not an employee of the Authority.

(c) Judicial Review. Any party to the administrative procedure may institute judicial review within 30 days of receipt of the written decision. Findings of fact shall be final and conclusive and shall not be set aside unless the same are fraudulent or arbitrary or capricious, or so grossly erroneous as to imply bad faith. No determination of an issue of law shall be final if legal action is instituted in a timely manner.

§ 12.5 Effect of Appeal Upon Contract.

Pending final determination of a protest or appeal, the validity of a contract awarded and accepted in good faith in accordance with this chapter shall not be affected by the fact that a protest or appeal has been filed.

§ 12.6 Legal Actions.

(a) A bidder or offeror, actual or prospective, who is refused permission to participate or is disqualified from participating in bidding or competitive negotiation, or who is determined not to be a responsible bidder or offeror for a particular contract, may bring an action in the appropriate circuit court challenging that decision, which shall be reversed only if the petitioner establishes that the decision was (i) not an honest exercise of discretion, but rather was arbitrary or capricious; (ii) not in accordance with the Constitution of Virginia, applicable state law or regulation, or the terms or conditions of the Invitation to Bid; or (iii) in the case of denial of prequalification, based upon the criteria for denial of prequalification set forth in § 4.2(g) of this policy.

(b) A bidder denied withdrawal of a bid under this policy may bring an action in the appropriate circuit court challenging that decision, which shall be reversed only if the bidder establishes that the decision of the public body was (i) not an honest exercise of discretion, but rather was arbitrary or capricious, or (ii) not in accordance with the Constitution of Virginia, applicable state law or regulation, or the terms or conditions of the Invitation to Bid.

(c) A bidder, offeror or contractor, or a potential bidder or offeror on a contract negotiated on a sole source or emergency basis whose protest of an award or decision to award under § 12.2 of this policy is denied, may bring an action in the appropriate circuit court challenging a proposed award or the award of a contract, which shall be reversed only if the petitioner establishes that the proposed award or the award is (i) not an honest exercise of discretion, but rather is arbitrary or capricious or (ii) not in accordance with the applicable law, regulations or the terms and conditions of the Invitation to Bid or Request for Proposal.

(d) If injunctive relief is granted, the court, upon request of the Authority, shall require the posting of reasonable security to protect the Authority.

(e) A contractor may bring an action involving a contract dispute with the Authority in the appropriate circuit court.

(f) A bidder, offeror or contractor need not utilize administrative procedures provided in § 12.4 of this policy, but if those procedures are invoked by the bidder, offeror or contractor, the procedures shall be exhausted prior to instituting legal action concerning the same procurement transaction unless the Authority agrees otherwise.

(g) Nothing herein shall be construed to prevent the Authority from instituting legal action against a contractor.

ARTICLE 13

RECORD RETENTION and PUBLIC ACCESS

§ 13.1 Record Retention.

The Authority shall maintain such written records as required by this policy and applicable law. All records and contract documents shall be maintained for at least three years after the Authority makes final payment and all other pending matters have concluded with respect to any given procurement transaction.

§ 13.2 Public Access to Procurement Information.

(a) Except as provided herein, all proceedings, records, contracts, and other public records relating to procurement transactions shall be open to the inspection of any citizen, or any interested person, firm or corporation, in accordance with the Virginia Freedom of Information Act (Virginia Code, § 2.2-3700, *et seq.*).

(b) Cost estimates relating to a proposed transaction prepared by or for the Authority shall not be open to public inspection.

(c) Any competitive sealed bidder, upon request, shall be afforded the opportunity to inspect bid records within a reasonable time after the opening of all bids but prior to award,

except in the event that the Authority rejects all bids and reopens the contract. Otherwise, bid and proposal records shall be open to public inspection only after award of the contract.

(d) Any competitive negotiation offeror, upon request, shall be afforded the opportunity to inspect proposal records within a reasonable time after the evaluation and negotiations of proposals are completed but prior to award, except in the event that the Authority decides not to accept any of the proposals and to reopen the contract. Otherwise, proposal records shall be open to public inspection only after award of the contract.

(e) Any inspection of procurement transaction records under this section shall be subject to reasonable restrictions to ensure the security and integrity of the records.

(f) Trade secrets or proprietary information submitted by a bidder, offeror or contractor in connection with a procurement transaction or prequalification application shall not be subject to public disclosure under the Virginia Freedom of Information Act; however, the bidder, offeror or contractor must invoke the protections of this section prior to or upon submission of the data or other materials, identify the data or other materials to be protected, and state the reasons why protection is necessary. A bidder, offeror, or contractor shall not designate as trade secrets or proprietary information (1) an entire bid, proposal, or prequalification application; (2) any portion of a bid, proposal, or prequalification application that does not contain trade secrets or proprietary information; or (3) line item prices or total bid, proposal, or prequalification application prices.

ARTICLE 14

ADDITIONAL PROVISIONS APPLICABLE TO PROCUREMENTS INVOLVING FEDERAL FUNDS

§ 14.1 Applicability.

The Authority is required to comply with federal regulations when a procurement is conducted in whole or in part with federal funds. The United States Office of Management and Budget's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards apply to all federal grants.

§ 14.2 Full and Open Competition.

All procurement transactions must be conducted in a manner providing full and open competition. To ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals must be excluded from competing for such procurements. The following are considered to be restrictions upon full and open competition:

- (a) Imposing unreasonable business requirements for bidders or offerors to qualify to do business.
- (b) Requiring unnecessary experience or bonding.

(c) Specifying only a brand name product without listing salient characteristics and allowing an equivalent product to be offered. Brand names are among the most restrictive types of specification.

(d) Non-competitive practices between firms or affiliated companies.

(e) Noncompetitive contracts with consultants that are on retainer contracts.

(f) Organizational conflicts of interest.

(g) Any arbitrary action in the procurement process.

§ 14.3 Geographic Preferences Prohibited.

The Authority prohibits the use of statutorily or administratively imposed state, local, or tribal geographical preferences in the evaluation of bids or proposals, except in those cases where applicable federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts any Virginia law requiring that a contractor within a particular profession be licensed within the Commonwealth. When contracting for architectural and engineering services, geographic location may be a selection criterion provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

§ 14.4 Affirmative Steps Pertaining to Minority and Other Businesses.

The Authority is required to take certain steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. Affirmative steps must include:

(a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(b) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

(d) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;

(e) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and

(f) Requiring the contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (a) through (e) of this section.

§ 14.5 Recovered Materials.

The Authority must comply with certain laws that require a preference for items that protect the environment, including Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (“EPA”) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

§ 14.6 Equal Opportunity.

All contracts greater than \$3,500 must contain a clause in which the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, sex, disability, or age. In addition, the Contractor agrees to comply with all applicable Federal laws and regulations pertaining to nondiscrimination.

§ 14.7 Federal Awarding Agency Review.

The Authority must make procurement documents and technical specifications available to the federal awarding agency upon request. The Authority may affirmatively seek review by the federal awarding agency when the Authority believes that such review is needed to comply with federal regulations.

§ 14.8 Debarment and Suspension.

A contract award must not be made to parties listed on the government-wide exclusions in the System for Award Management (SAM). The SAM Exclusions contain the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority.

§ 14.9 Davis-Bacon Act.

All procurements for federally-assisted construction contracts in excess of \$2,000 must require the contractor to comply with the Davis-Bacon Act, as supplemented by United States Department of Labor regulations, which require that the contractor and its subcontractors pay prevailing wages to certain categories of employees.

§ 14.10 Byrd Anti-Lobbying Amendment.

All federally-funded procurements in excess of \$100,000 must require that bidders and offerors provide a certification that the funds will not be used to pay any person or organization

to lobby agencies, members of Congress, or other federal officials. In addition, any lobbying in connection with obtaining any federally-funded project must be disclosed.

§ 14.11 Other Required Federal Contract Clauses.

Certain contract clauses are required in federally-funded contracts, such clauses being dependent on the nature of the goods or services being procured and the dollar amount of the contract. Please consult Appendix 1 for a list of many required state and federal contract clauses. On larger contracts or with atypical funding sources, the Authority should consult with counsel prior to the issuance of a procurement solicitation.

ARTICLE 15 CONFLICTS OF INTEREST and ETHICS IN PUBLIC CONTRACTING

§ 15.1 Purpose.

Public employment is a public trust, particularly when public funds are being expended. This Article is intended to set organizational and behavioral guidelines for the manner in which employees should act in order to preserve and in furtherance of public trust and comply with all applicable laws and regulations. Employees should also maintain a standard of conduct that will inspire public confidence in the integrity of the Authority. The Authority is committed to the responsible exercise of authority and expressly prohibits all forms of impropriety, threats, favoritism, and undue influence. To that end, the Executive Director shall distribute and explain this policy to all existing employees and all new hires. Employees are required to sign a statement affirming that they have received the policy, understand and will comply with its provisions. Employees who are involved in purchasing or in the administration of contracts should, from time to time, receive training from the Executive Director, Authority's employee, or other appropriate official.

The provisions of this Article supplement, but do not supersede, other provisions of law including, but not limited to, the State and Local Government Conflict of Interests Act (§ 2.2-3100, *et seq.*), the Virginia Governmental Frauds Act (§ 18.2-498.1, *et seq.*) and Article 2 (§ 18.2-438, *et seq.*) and Article 3 (§ 18.2-446, *et seq.*) of Chapter 10 of Title 18.2. The provisions of this Article apply notwithstanding the fact that the conduct described may not constitute a violation of the State and Local Government Conflict of Interests Act.

§ 15.2 General Principles.

Authority employees¹ must follow the following principles when doing their work:

(a) Act in Best Interest of the Public. Employees shall perform their official duties in such a manner as to promote the best interest of the members and general public at all times.

¹ For the purpose of this Article, the word "employee" includes both officers (Commissioners) and employees of the Authority.

(b) No Additional Value for Service. Employees shall not solicit or accept money or other thing of value for services performed within the scope of their official duties, except the compensation, expenses or other remuneration paid by the agency of which they are an officer or employee. This prohibition shall not apply to the acceptance of special benefits that may be authorized by law. Furthermore, no employee shall offer or accept any money or other thing of value for or in consideration of obtaining employment, appointment, or promotion of any person with any governmental or advisory agency.

(c) No Use of Confidential Information for Own Benefit. Employees shall not use for their own economic benefit or that of another party confidential information that they have acquired by reason of his public position and which is not available to the public.

(d) No Accepting of Gifts That Tend to Influence. Employees shall not accept any money, loan, gift, favor, service, or business or professional opportunity that reasonably tends to influence him or her in the performance of official duties. This subdivision shall not apply to any political contribution actually used for political campaign or constituent service purposes and reported as required by Chapter 9.3 of Title 24.2 of the Code of Virginia.

(e) No Accepting of Business Opportunities Intended to Influence. Employees shall not accept any business or professional opportunity when they know that there is a reasonable likelihood that the opportunity is being afforded to influence the performance of official duties.

(f) No Accepting Money for Expertise or Opinions within Scope of Duties. Employees shall not accept any honoraria for any appearance, speech, or article in which the officer or employee provides expertise or opinions related to the performance of official duties. The term "honoraria" shall not include any payment for or reimbursement to such person for actual travel, lodging, or subsistence expenses incurred in connection with such appearance, speech, or article or in the alternative a payment of money or anything of value not in excess of the per diem deduction allowable under § 162 of the Internal Revenue Code, as amended from time to time.

(g) No Accepting Gifts for Influence. Employees shall not accept a gift from a person who has interests that may be substantially affected by the performance of the employee's official duties under circumstances where the timing and nature of the gift would cause a reasonable person to question the officer's or employee's impartiality in the matter affecting the donor. Any gift that is received by an employee as a result of the performance of their official duties that is sharable (fruit baskets, desert trays, product samples) should be shared among other Authority employees.

(h) No Accepting of Frequent Gifts. Employees shall not accept gifts from sources on a basis so frequent as to raise an appearance of the use of public office for private gain.

Explanatory note for Subsections (g) and (h): Certain small gifts are de minimis under Virginia's Conflict of Interest Act and are allowed. The Conflict of Interest Act imposes a \$100 per year limitation on the receipt of gifts from any person, organizations, or businesses who contracts with or is seeking to contract with the Authority. See Va. Code § 2.2-3103.1. Gifts that are greater than \$20 are aggregated toward the \$100 annual limit. Therefore, it does not violate this policy

to have one lunch or dinner with a contractor who pays for the check. However, multiple lunches or dinners that exceed \$100 in the aggregate would violate this policy. Any gift that exceeds \$100 must be returned.

(i) No Retaliating. Employees shall not use their public position to retaliate or threaten to retaliate against any person for expressing views on matters of public concern or for exercising any right that is otherwise protected by law.

(j) No Misrepresentations. No Authority employee having official responsibility for a procurement transaction shall knowingly falsify, conceal, or misrepresent a material fact; knowingly make any false, fictitious or fraudulent statements or representations; or make or use any false writing or document knowing it to contain any false, fictitious or fraudulent statement or entry.

(k) Conserve Authority Property. Employees shall protect and conserve Authority property and shall not use it for other than authorized activities.

(l) No Use of Authority Property for Personal Benefit. The use of Authority equipment, machines, property or services for purposes other than Authority business is strictly prohibited, except; however, for a *de minimis* use. No employee shall authorize any work to be performed on any property owned by such employee, the employee's relatives, or an individual with whom or business to which the employee has a financial interest.

(m) Comply with Laws and Policies. Employees are expected to comply with all federal and state laws, grants and regulations and all Authority policies.

(n) Additional Considerations During Pending or Active Procurements. During any pending or active procurement, employees should (i) avoid and limit individual discussions with bidders and offerors, and (ii) direct bidders and offerors to submit any questions about the procurement in writing to the Purchasing Agent.

§ 15.3 Prohibited Conduct by Employees in Procurement Transactions.

(a) Each employee with more than a *de minimis* personal interest in any contract or any prospective contract shall disqualify himself or herself from participating in the award or administration of that contract and shall file a disclosure of such personal interest with the Executive Director. In addition, if the Executive Director has a personal interest in a contract or prospective contract, he or she shall disclose such interest to the Governing Body.

(b) No employee having official responsibility for a procurement transaction shall participate in that transaction on behalf of the Authority when the employee knows that:

- (1) The employee is contemporaneously employed by a bidder, offeror or contractor involved in the procurement transaction;
- (2) The employee, the employee's partner, or any member of the employee's immediate family holds a position with a bidder, offeror or contractor such as an officer, director, trustee, partner or the like, or is employed in a capacity involving personal and substantial participation in the procurement transaction, or owns or controls an interest of more than five percent;

- (3) The employee, the employee's partner, or any member of the employee's immediate family has a pecuniary interest arising from the procurement transaction; or
- (4) The employee, the employee's partner, or any member of the employee's immediate family is negotiating, or has an arrangement concerning, prospective employment with a bidder, offeror or contractor.

§ 15.4 Subsequent Employment.

No employee or former employee of the Authority having official responsibility for procurement transactions shall accept employment with any bidder, offeror or contractor with whom the employee or former employee dealt in an official capacity concerning procurement transactions for a period of one year from the cessation of employment by the Authority unless the employee or former employee provides written notification to the Executive Director prior to commencement of employment by that bidder, offeror or contractor.

§ 15.5 Kickbacks.

(a) No contractor or subcontractor shall demand or receive from any supplier or subcontractor, as an inducement for the award of a subcontract or order, any payment, loan, subscription, advance, deposit of money, services or anything, present or promised, unless consideration of substantially equal or greater value is exchanged.

(b) No subcontractor or supplier shall make, or offer to make, kickbacks as described in this section.

(c) No person shall demand or receive any payment, loan, subscription, advance, deposit of money, services or anything of value in return for an agreement not to compete on a public contract.

(d) If a subcontractor or supplier makes a kickback or other prohibited payment as described in this section, the amount thereof shall be conclusively presumed to have been included in the price of the subcontract or order and ultimately borne by the Authority and will be recoverable from both the maker and recipient. Recovery from one offending party shall not preclude recovery from other offending parties.

§ 15.6 Participation in Bid Preparation; Limitation on Submitting Bid for Same Procurement.

No person who, for compensation, prepares an Invitation to Bid or Request for Proposal for or on behalf of the Authority shall (i) submit a bid or proposal for that procurement or any portion thereof or (ii) disclose to any bidder or offeror information concerning the procurement that is not available to the public. However, the Purchasing Agent may permit such person to submit a bid or proposal for that procurement or any portion thereof if he or she determines that the exclusion of the person would limit the number of potential qualified bidders or offerors in a manner contrary to the best interests of the Authority.

§ 15.7 Purchase of Building Materials, etc., from Architect or Engineer Prohibited.

(a) Except in cases of emergency, no building materials, supplies or equipment for any building or structure constructed by or for the Authority shall be sold by or purchased from any person employed as an independent contractor by the Authority to furnish architectural or engineering services, but not construction, for such building or structure, or from any partnership, association, or corporation in which such architect or engineer has a personal interest as defined by this policy and Virginia Code § 2.2-3101.

(b) Except in cases of emergency, no building materials, supplies or equipment for any building or structure constructed by or for the Authority shall be sold by or purchased from any person who has provided or is currently providing design services specifying a sole source for such materials, supplies or equipment to be used in the building or structure to the independent contractor employed by the Authority to furnish architectural or engineering services in which such person has a personal interest as defined by this policy and Virginia Code § 2.2-3101.

§ 15.8 Principles of Ethical Decision-Making.

To assist in fostering a climate of ethical awareness, conduct and decision-making, employees may find it useful to refer, either by themselves or in consultation with their peers or supervisor, the following five considerations:

- (a) Is the decision or conduct lawful?
- (b) Is the decision or conduct consistent with the Authority's policy and objectives?
- (c) What will the outcome be for the employee, work colleagues, the Authority, citizens, and other parties?
- (d) Do these outcomes raise a conflict of interest or lead to private gain at public expense?
- (e) Can the decision or conduct be justified in terms of the public interest and would it withstand public scrutiny?

§ 15.9 Reporting Conflicts of Interest.

(a) Employees may consult with the Executive Director with any questions as to the existence of a potential conflict of interest.

(b) Any employee with a serious, well founded reason to believe that another Authority employee has violated this policy may speak in confidence with the Executive Director about such concerns. The Executive Director shall promptly investigate such allegations and take appropriate actions if a problem is found to exist.

(c) Any employee with a serious, well founded reason to believe that the Executive Director has violated this policy may speak in confidence to the Chairman of the Governing Body about such concerns. The Chairman of the Governing Body shall promptly investigate such allegations and take appropriate actions if a problem is found to exist.

(d) Employees presenting serious, well founded concerns to either the Executive Director or the Chairman of the Governing Body are protected from retaliation by their superiors and co-workers. Any supervisor or co-worker attempting to retaliate will face discipline up to and including dismissal.

§ 15.10 Penalty for Violation.

A willful violation of any provision of this Article shall constitute a Class 1 misdemeanor under Virginia Code § 2.2-4377. Upon conviction, any Authority employee, in addition to any other fine or penalty provided by law, shall forfeit his or her employment.

Appendix 1. Guide to Required Contract Clauses

Contract Amount	State Contract Clauses (VPPA, 2.2-4300 <i>et seq.</i>)	Federally-Funded Contract Clauses (Appendix II to 2 C.F.R. Part 200)
Exceeding	Compliance with federal Immigration	No Federal Government Obligations

\$3,500	Reform and Control Act (Virginia Code § 2.2-4311.1; Applies if there is a written contract) Authorized to transact business in Commonwealth (Virginia Code § 2.2-4311.2; Applies if there is a written contract) Prompt payment (Virginia Code § 2.2-4354 – Applies if the contract allows the goods or services to be subcontracted)	to Third Parties False or Fraudulent Statements or Claims – Civil and Criminal Fraud Access to Third Party Contract Records Changes to Federal Requirements Civil Rights (Title VI, ADA, EEO (except special DOL construction clause)) Disadvantaged Business Enterprises (DBEs)
Exceeding \$10,000	Employment discrimination by contractor prohibited (Virginia Code § 2.2-4311) Drug-free workplace (Virginia Code § 2.2-4312)	Termination for cause and/or for convenience (Appendix II to 2 C.F.R. Part 200)
Exceeding \$25,000		Debarment and Suspension
Exceeding \$100,000		Resolution of Disputes, Breaches, or Other Litigation Byrd Anti-Lobbying Amendment Contract Work Hours and Safety Standards Act (for Contracts involving mechanics or laborers)

Appendix 2. State and Federal Contract Clauses

Authorized to Transact Business in the Commonwealth (all written contracts).

The contractor is authorized to transact business in the Commonwealth of Virginia as a domestic Limited Liability Company and its State Corporation Commission Identification Number is _____.

Compliance with Federal Immigration and Reform and Control Act (all written contracts).

The Contractor shall not knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.

Prompt Payment and Interest (all contracts that allow subcontracting).

(a) The contractor shall take one of the two following actions within seven (7) days after the receipt of amounts paid to him by HRHA for work performed by his subcontractor(s) under the contract:

- (1) Pay the subcontractor(s) for the proportionate share of the total payment received from HRHA attributable to the work performed by the subcontractor(s) under the contract; or
- (2) Notify HRHA and subcontractor(s), in writing, of his intention to withhold all or a part of the subcontractor's payment with the reason for nonpayment.

(b) The contractor shall pay interest to the subcontractor(s) on all amounts owed by the contractor that remain unpaid after seven (7) days following receipt by the contractor of payment from HRHA for work performed by the subcontractor(s) under the contract, except for amounts withheld as allowed by paragraph (a)(2) above. Unless otherwise provided under the terms of this contract, interest shall accrue at the rate of one percent (1%) per month.

(c) The contractor shall include in each of its subcontracts a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements with respect to each lower-tier subcontractor(s).

(d) The contractor's obligation to pay an interest charge to a subcontractor(s) pursuant to the payment clause in this section shall not be construed to be an obligation of HRHA. A contract modification shall not be made for the purpose of providing reimbursement for such interest charge and a cost reimbursement claim shall not include any amount for reimbursement for such interest charge.

No Federal Obligations to Third Parties (contracts of \$3,500 or more).

The contractor acknowledges and agrees that the Federal Government is not a party to this contract and shall have no obligations hereunder.

Examination and Retention of Contractor's Records.

The HRHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until three years after final payment under this contract, have access to and the right to examine any of the contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

False or Fraudulent Statements or Claims (contracts of \$3,500 or more).

The contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801, *et seq.*, applies to its actions pertaining to the contract. The Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the contract.

Civil Rights – Federal Law (contracts of \$3,500 or more).

The contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, sex, disability, or age. In addition, the Contractor agrees to comply with all applicable Federal laws and regulations pertaining to nondiscrimination.

Employment Discrimination Prohibited – State Law (contracts of \$10,000 or more).

During the performance of this contract, the contractor agrees as follows:

- (a) The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- (b) The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that the contractor is an equal opportunity employer.
- (c) Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

The contractor shall include the provisions of the foregoing paragraphs of this section in every subcontract or purchase order of over \$10,000 so that the provisions will be binding upon each subcontractor or vendor.

Drug-Free Workplace (contracts of \$10,000 or more).

During the performance of this contract, the contractor agrees to (a) provide a drug-free workplace for the contractor's employees; (b) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (c) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (d) include the provisions of the foregoing clauses in every subcontract or

purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

Termination for Cause and for Convenience (contracts of \$10,000 or more).

(a) The HRHA may terminate this contract in whole, or from time to time in part, for the HRHA's convenience or the failure of the contractor to fulfill the contract obligations (cause/default). The HRHA shall terminate by delivering to the contractor a written notice of termination specifying the nature, extent, and effective date of the termination. Upon receipt of the notice, the contractor shall: (1) immediately discontinue all services affected (unless the notice directs otherwise), and (2) deliver to the HRHA all information, reports, papers, and other materials accumulated or generated in performing the contract, whether completed or in process.

(b) If the termination is for the convenience of the HRHA, the HRHA shall be liable only for payment for services rendered before the effective date of the termination.

(c) If the termination is due to the failure of the contractor to fulfill its obligations under the contract (cause/default), the HRHA may (1) require the contractor to deliver to it, in the manner and to the extent directed by the HRHA, any work described in the notice of termination; (2) take over the work and prosecute the same to completion by contract or otherwise, and the contractor shall be liable for any additional cost incurred by the HRHA; and (3) withhold any payments to the contractor, for the purpose of set-off or partial payment, as the case may be, of amounts owned by the HRHA by the contractor. In the event of termination for cause/default, the HRHA shall be liable to the contractor for reasonable costs incurred by the contractor before the effective date of the termination. Any dispute shall be decided by the contracting officer.

Debarment and Suspension (contracts of \$25,000 or more).

This contract is a covered transaction for purposes of 2 CFR 180. As such, the contractor is required to verify that none of the contractor, its principals, are excluded or disqualified as defined under Executive Orders Nos. 12549 and 12689. The contractor is required to comply with 2 CFR 1200, and must include the requirement to comply with 2 CFR 1200, Subpart C, in any lower tier covered transaction. This certification is a material representation of fact relied upon by the HRHA.

If it is later determined that the bidder or offeror knowingly rendered an erroneous certification, in addition to remedies available to the HRHA, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or offeror agrees to comply with the requirements of 2 CFR Part 180 while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or offeror further agrees to

include a provision requiring such compliance in its lower tier covered transactions.

Right in Data and Patent Rights (Ownership and Proprietary Interest).

The HRHA shall have exclusive ownership of, all proprietary interest in, and the right to full and exclusive possession of all information, materials, and documents discovered or produced by contractor pursuant to the terms of this contract, including, but not limited to, reports, memoranda or letters concerning the research and reporting tasks of the contract.

Energy Efficiency.

The contractor shall comply with all mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163) for the state in which the work under this contract is performed.

Procurement of Recovered Materials.

(a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the contractor determines that such items: (1) are not reasonably available in a reasonable period of time; (2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or (3) are only available at an unreasonable price.

(b) Paragraph (a) of this clause shall apply to items purchased under this contract where: (1) the contractor purchases in excess of \$10,000 of the item under this contract; or (2) during the preceding Federal fiscal year, the contractor: (i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and (ii) purchased a total of in excess of \$10,000 of the item both under and outside that contract.



**U. S. Department of Housing and Urban Development
Office of Community Planning and Development**

Special Attention of:

NOTICE: CPD-2023-12

All Secretary's Representatives
All State/Area Coordinators
All CPD Division Directors
HUD Field Offices
HUD Regional Offices

Issued: **November 2, 2023**

Expires: Effective until amended, superseded,
or rescinded

Cross Reference:

Sections 70901-52 of Pub. L. No. 117-58

Subject: CPD Implementation Guidance for the Build America, Buy America Act's domestic content procurement preference as part of the Infrastructure Investment and Jobs Act.

This Notice provides initial implementation guidance for programs administered by the U.S. Department of Housing and Urban Development's (HUD) Office of Community Planning and Development (CPD) for the "Buy America Preference" (BAP) imposed by the Build America, Buy America Act (BABA) enacted under Division G, Title IX of the Infrastructure Investment and Jobs Act (IIJA, Pub. L. No. 117-58) signed into law on November 15, 2021.

This Notice provides CPD grantees and participating jurisdictions, collectively referred to as grantees, an overview of BABA, including key terms, HUD actions to implement BABA, guidance on HUD's general waivers, the phased implementation schedule for the BAP on CPD programs, and proposed next steps. The attached addenda include answers to frequently asked questions, examples of when the BAP applies for CPD grantees, and sample BAP language for agreements.

Purpose of the Notice

This Notice is intended to notify grantees of the “Buy America Preference” (BAP) requirement under the Build America, Buy America Act (BABA) as they apply to CPD programs. This Notice identifies the CPD programs and activities that must comply with BABA along with the timeline for the application of the BAP. It also highlights issues that grantees will want to consider when preparing for HUD’s full implementation of the BAP, as described in “Public Interest Phased Implementation Waiver for FY 2022 and 2023 of Build America, Buy America Provisions as Applied to Recipients of HUD Federal Financial Assistance” (88 Fed. Reg. 17001, effective March 15, 2023). This Notice refers to 88 Fed. Reg. 17001 as the “Phased Implementation Waiver” which establishes BAP implementation points according to a schedule across HUD programs.

Note: The guidance provided in this Notice is subject to change if the Office of Management and Budget (OMB) updates guidance on the application of BABA for Federal financial assistance (FFA) programs for infrastructure.

I. Overview of Build America, Buy America Act

The Build America, Buy America Act (BABA)

The Build America, Buy America Act (BABA) was signed into law by President Biden on November 15, 2021, as part of the Infrastructure Investment and Jobs Act (IIJA) as Sections 70901-52 of Pub. L. No. 117-58. In addition to providing funding for roads, bridges, rails, and high-speed internet access, it created an incentive to increase domestic manufacturing across the country through the inclusion of BABA’s “Buy America Preference” (BAP). In general, the BAP requires that all iron, steel, manufactured products, and construction materials used in infrastructure projects funded with Federal financial assistance (FFA), as outlined in Section 70914(a) of BABA, must be produced in the United States. The intent of the BAP in BABA is to stimulate private-sector investments in domestic manufacturing, bolster critical supply chains, and support the creation of well-paying jobs for people in the United States. The preference is also intended to bolster American firms’ ability to compete and lead globally for years to come by requiring entities that receive Federal infrastructure funds to use American materials and products.

The BABA preference for American materials and products applies to all spending on infrastructure projects by Federal agencies, including HUD. In BABA and for purposes of this Notice, the Federal infrastructure spending with a BAP is referred to as “Federal financial assistance” or “FFA.” Under Section 70912(7), FFA for infrastructure “projects” includes the “construction, alteration, maintenance, or repair of infrastructure in the United States”. Under Section 70914(a), the use of American iron and steel, construction materials, and manufactured products applies to funding from CPD programs for infrastructure projects. However, the BAP does not apply to “pre and post disaster or emergency response expenditures” under Section 70912(4)(B). A list of CPD disaster or emergency funding meeting these criteria can be found in Section III.

Effective May 14, 2022, the BAP applies to infrastructure spending unless an agency issues a waiver in three limited situations: 1) when applying the domestic content procurement preference

would be inconsistent with the public interest, 2) when types of iron, steel, manufactured products or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality, or 3) where the inclusion of those products and materials will increase the cost of the overall project by more than 25 percent. Before issuing a waiver, under Section 70914(c), the head of a Federal agency, including HUD, must make publicly available a detailed written explanation for the proposed determination to issue the waiver and provide a period of not less than 15 days for public comment on the proposed waiver. Additional details on waivers can be found in Section IV.

A. Federal Government-wide Guidance on BABA

As a part of the Federal government's support of domestic production and manufacturing through infrastructure investments, OMB and HUD have taken several steps to implement the BAP by providing guidance and issuing HUD general waivers.

On August 23, 2023, OMB issued final rules for 2 CFR Parts 184 and 200 and provided further guidance on implementing the statutory requirements and improving FFA management and transparency (88 Fed. Reg. 57750, effective October 23, 2023). These government-wide regulations apply to HUD programs and provide direction on implementing a BAP waiver process. The new and revised regulations also provide additional guidance on construction material standards, the cost components of manufactured products, and their definitions.

On October 25, 2023, OMB issued guidance to all Federal agencies on how to implement BABA consistently across the government. The [“Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure” \(M-24-02\)](#) (OMB Guidance) directs Federal agencies, including HUD, on how to apply the BAP and provides an overview of the BAP waiver requirements. OMB may also issue additional or updated guidance in the future, and HUD will update its guidance as necessary.

B. HUD Actions and Guidance on BABA

BABA is a new and complex statute, which became effective in 2022. As such, establishing governmentwide guidance on these new statutory requirements has been an iterative process. Since the passage of BABA, HUD has worked diligently to implement the BAP for all HUD programs. Before the law became effective on May 14, 2022, HUD established a Department-wide BABA leadership committee. Beginning in June 2022, HUD issued a Request for Information (RFI) and collected public comments on potential BABA implications for HUD grantees. Based on these comments and to ease the transition in complying with the BAP, HUD proposed and received four general waivers for covered FFA, which includes CPD programs. These waivers and other BABA information are available on HUD's website at [BABA | HUD.gov / U.S. Department of Housing and Urban Development \(HUD\)](#). Further details on these waivers and their application to CPD programs are provided in Section IV of this Notice.

CPD has taken several actions to notify and communicate with stakeholders and grantees on BABA requirements and their impact on CPD programs. All CPD Fiscal Year (FY) 2022 grant transmittal letters and notices of funding opportunities (NOFOs) included a reference to the BAP

under BABA. For the FY2023 funding allocations, all CPD grant agreements with covered FFA included a clause to require that the grantee must comply with BABA, as applicable. Throughout 2023, CPD has held BABA information sessions for CPD grantees and has a dedicated email box at CPDBABA@hud.gov to answer questions from individual grantees and stakeholders.

HUD is continuing to work towards implementing BABA across its covered FFA programs. Next steps include establishing a centralized waiver process for all HUD covered programs. CPD is incorporating BABA in its existing reporting systems and processes. To assist grantees, CPD is also developing additional guidance materials and support as the phased implementation of BABA progresses.

II. Definitions

Key terms that have relevance to the interpretation and implementation of the BAP for CPD programs are defined in the BABA statute and may be found in 2 CFR part 184 and OMB guidance.

- A. Build America, Buy America Act is defined in 2 CFR § 184.3 and means division G, title IX, subtitle A, parts I–II, sections 70901 through 70927 of the Infrastructure Investment and Jobs Act (Pub. L. No. 117-58)
- B. Buy America Preference is defined in 2 CFR § 184.3 and means the “domestic content procurement preference” set forth in section 70914 of BABA, which requires the head of each Federal agency to ensure that none of the funds made available for a Federal award for an infrastructure project may be obligated unless all of the iron, steel, manufactured products, and construction materials incorporated into the project are produced in the United States.
- C. Categorization of Articles. The term “categorization of articles” refers to the requirement that articles, materials, and supplies should only be classified into one of the following categories:
 - i. Iron or steel products;
 - ii. Manufactured products;
 - iii. Construction materials; or
 - iv. Section 70917(c) materials.

An article, material, or supply should not be classified into more than one category and must be made based on the status of the article, material, or supply upon arrival to the work site for use in an infrastructure project. Articles, materials, or supplies must meet the Buy America Preference for only the single category in which they are classified and, in some cases, may not fall under any of the categories listed above.

- D. Component is defined in 2 CFR § 184.3 and means an article, material, or supply, whether manufactured or unmanufactured, incorporated directly into: a manufactured product; or, where applicable, an iron or steel product.
- E. Construction Materials is defined in 2 CFR § 184.3 and means articles, materials, or

supplies that consist of only one of the items listed in paragraph (1) of this definition, except as provided in paragraph (2) of this definition. To the extent one of the items listed in paragraph (1) contains as inputs other items listed in paragraph (1), it is nonetheless a construction material.

(1) The listed items are:

- i. Non-ferrous metals;
- ii. Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- iii. Glass (including optic glass);
- iv. Fiber optic cable (including drop cable);
- v. Optical fiber;
- vi. Lumber;
- vii. Engineered wood, and
- viii. Drywall.

(2) Minor additions of articles, materials, supplies or binding agents to a construction material do not change the categorization of the construction material.

F. Covered Materials includes the following when used in connection with an Infrastructure Project:

- (A) all iron and steel;
- (B) all Manufactured Products; and
- (C) all Construction Materials.

G. Covered CPD Programs. The term “covered CPD programs” means any Federal financial assistance administered by CPD that is used for infrastructure purposes, excepting expenditures related to pre and post disaster or emergency response.

H. Grantee. The term “grantee,” as defined at 24 CFR 5.100, means the person or legal entity to which a grant is awarded and that is accountable for the use of the funds provided.

I. Federal Financial Assistance (FFA) has the meaning given to the term in 2 CFR 200.1 (or successor regulations) and includes all expenditures by a Federal agency to a Non-Federal Entity for an Infrastructure Project, except that it does not include:

(A) expenditures for assistance authorized under section 402, 403, 404, 406, 408, or 502 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5170a, 5170b, 5170c, 5172, 5174, or 5192) relating to a major disaster or emergency declared by the President under section 401 or 501, respectively, of such Act (42 U.S.C. 5170, 5191); or

(B) pre and post disaster or emergency response expenditures.

J. Infrastructure is described in 2 CFR 184.4(c) and encompasses public infrastructure projects in the United States, which includes, at a minimum: the structures, facilities, and equipment for roads, highways, and bridges; public transportation; dams, ports, harbors, and other

maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property; and structures, facilities, and equipment that generate, transport, and distribute energy including electric vehicle (EV) charging. See also 2 CFR 184.4(d).

- K. Infrastructure Project. The term “infrastructure project” is defined in 2 CFR 184.3 and means any activity related to the construction, alteration, maintenance, or repair of infrastructure in the United States regardless of whether infrastructure is the primary purpose of the project.
- L. Iron and Steel Products. The term “iron and steel products” is defined in 2 CFR 184.3 and means an article, material, or supply that consists wholly or predominantly of iron or steel, or a combination of both.
- M. Predominantly of iron or steel or a combination of both is defined in 2 CFR 184.3 and means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.
- N. Made in America Office. The term “Made in America Office” or “MIAO” means the office at the Office of Management and Budget, established by section 70923 of BABA, that is charged with, among other things, enforcing compliance with the BAP and establishing the procedures to review waiver requests proposed by a Federal awarding agency.
- O. Manufactured Products is defined in 2 CFR 184.3 and means:
- (1) Articles, materials, or supplies that have been:
 - (i) Processed into a specific form and shape; or
 - (ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.
 - (2) If an item is classified as an iron or steel product, a construction material, or a section 70917(c) material under 2 CFR 184.4(e) and the definitions set forth in this section, then it is not a manufactured product. However, an article, material, or supply classified as a manufactured product under 2 CFR 184.4(e) and paragraph (1) of this definition may include components that are construction materials, iron or steel products, or section 70917(c) materials.
- P. Manufacturer is defined in 2 CFR 184.3 and means the entity that performs the final manufacturing process that produces a manufactured product.
- Q. Non-Federal Entity means a State, local government, Indian Tribe, Institution of Higher Education (IHE), or nonprofit organization, as provided in 2 CFR 200.1. Public Housing Agencies are Non-Federal Entities.

- R. Not Listed Construction Materials. The term “not listed construction materials” refers to the category of construction materials that are subject to the BAP, but not included in HUD’s specifically listed construction materials, as defined in the Phased Implementation Waiver. This includes:
- i. plastic and polymer-based products other than composite building materials or plastic and polymer-based pipe or tube;
 - ii. glass (including optic glass); and
 - iii. drywall.
- S. Obligate. The term “obligate,” for purposes of HUD’s phased implementation of BABA, means the date that HUD executed the legal instrument creating the relationship between HUD and the grantee for an award of Federal financial assistance. The milestone that establishes an obligation date depends on each program but for many CPD programs, such as CDBG, the obligation date occurs upon HUD’s execution of the grant agreement.
- T. OMB Guidance. The term “OMB guidance” refers to 2 CFR Part 184, the "[Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure](#)" (M-24-02), issued October 25, 2023, by the Office of Management and Budget, and any subsequent guidance to rescind or replace M-24-02. This guidance is applicable to the heads of all Federal agencies for the implementation of BABA’s Buy America Preference.
- U. Pre and Post Disaster or Emergency Response Expenditures. The term “pre and post disaster or emergency response expenditures” means Federal funding authorized under section 402, 403, 404, 406, 408, or 502 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) relating to a major disaster or emergency declared by the President under section 401 or 501, respectively. The BAP does not apply to pre and post disaster or emergency response expenditures authorized by statutes other than the Stafford Act and made in anticipation of or in response to an event that qualifies as an emergency or major disaster within the meaning of the Stafford Act.
- V. Produced in the United States is defined in 2 CFR 184.3 and means:
- i. In the case of iron or steel products, all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
 - ii. In the case of manufactured products:
 1. The product was manufactured in the United States; and
 2. The cost of components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard that meets or exceeds this standard has been established under applicable law or regulation for determining the minimum amount of domestic content of the manufactured product. See 2 CFR 184.2(a). The costs of components of a manufactured product are determined according

to 2 CFR 184.5.

- iii. In the case of construction materials, all manufacturing processes for the construction material occurred in the United States. See 2 CFR 184.6 for more information on the meaning of “all manufacturing processes” for specific construction materials.

W. Project. The term “project” means the construction, alteration, maintenance, or repair of infrastructure in the United States. (Section 70912(7) of BABA).

X. Section 70917(c) Materials. The term “section 70917(c) materials” is defined in 2 CFR 184.3 and means cement and cementitious materials; aggregates such as stone, sand, or gravel, or aggregate binding agents or additives. These materials are not considered “construction materials” for the purpose of BABA implementation.

Y. Specifically listed construction materials. The term “specifically listed construction materials” for HUD programs includes:

- a. non-ferrous metals;
- b. lumber;
- c. composite building materials; and
- d. plastic and polymer-based pipe and tube.

III. Applicability of the BAP on CPD Programs

Under Sections 70912 and 70914, the BAP applies to the purchase of iron, steel, manufactured products, and construction materials for Covered CPD Programs when funds are used for the construction, alteration, maintenance, or repair of infrastructure, as defined by BABA. Covered CPD Programs currently include:

- Community Development Block Grant Formula Programs (CDBG)
- Section 108 Loan Guarantee
- HOME Investment Partnerships Program (HOME)
- HOME Investment Partnerships American Rescue Plan Program (HOME-ARP)
- Housing Trust Fund (HTF)
- Recovery Housing Program (RHP)
- Emergency Solutions Grants (ESG)
- Continuum of Care (CoC)
- Housing Opportunities for Persons With AIDS (HOPWA)
- Self-Help Homeownership Opportunity Program (SHOP)
- Special NOFA for unsheltered and rural homeless
- Veterans Housing Rehabilitation and Modification Program (VHRMP)
- Community Project Funding (CPF)/Economic Development Initiatives (EDI)
- Section 4 Capacity Building
- Rural Capacity Building
- Pathways to Removing Obstacles to Housing (PRO Housing)
- Preservation and Reinvestment Initiative for Community Enhancement (PRICE)

- FY23 Permanent Supportive Housing (PSH) Funds

This list of Covered CPD Programs is subject to change if there are any changes to the eligible uses of funds or the establishment of new programs that fund infrastructure and are covered by BABA.

CPD Programs Not Covered by BAP:

Under Section 70912(4)(B), the BAP does not apply to Federal funds for “pre and post disaster or emergency response.” The following CPD funds are administered for disaster or emergency-related purposes and therefore the BAP does not apply:

- Community Development Block Grant – Disaster Recovery Funds (CDBG-DR)
- Community Development Block Grant – Mitigation (CDBG-MIT)
- Community Development Block Grant – National Disaster Resilience Competition (CDBG-NDR)
- Community Development Block Grant CARES Act (CDBG-CV)
- Housing Opportunities for Persons With AIDS CARES Act (HOPWA-CV)
- Emergency Solutions Grants CARES Act (ESG-CV)

Additionally, the Community Compass Technical Assistance program is excluded from the BAP as the program does not fund any covered infrastructure activities.

IV. Buy America Preference Waivers Currently in Effect for HUD Programs

Under Section 70914(b), HUD is able to issue, after consultation with OMB’s MIAO, general waivers, and project-specific waivers to the BAP if it is determined that a waiver falls into one of the following three categories: 1) when applying the domestic content procurement preference would be inconsistent with the public interest, 2) when types of iron, steel, manufactured product or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality, or 3) where the inclusion of those products and materials will increase the cost of the overall project by more than 25 percent. In order for HUD to consider either a general or project specific waiver request and be able to review it with OMB, the waiver must include a detailed written explanation and allow for the public to comment for at least 15 days, as required under Section 70914(c).

HUD’s General Waivers Applicable to Covered CPD Programs

Four general applicability waivers are currently in effect for HUD programs and apply to all Covered CPD Programs. Each waiver is outlined below.

General Waiver Type	Purpose	Effective Dates
Public Interest Phased Implementation	HUD issued a public interest waiver, <u>“Public Interest Phased Implementation Waiver for FY 2022 and 2023 of Build America, Buy America Provisions as Applied to Recipients of HUD Federal Financial Assistance”</u> to allow for orderly implementation of the BAP across HUD programs. The Phased Implementation Waiver establishes a schedule for the phased implementation of the BAP across CPD programs and infrastructure materials.	The public interest waiver was issued in March 2023 and established a phased implementation schedule for the application of the BAP to HUD programs through FY2025. The BAP has been in effect since November 15, 2022, for the use of iron and steel for infrastructure projects funded with newly obligated FFA through the CDBG program.
Exigent Circumstances	HUD issued a public interest waiver for exigent circumstances, <u>“Public Interest Waiver of Build America, Buy America Provisions for Exigent Circumstances as Applied to Certain Recipients of HUD Federal Financial Assistance”</u> . This waiver applies when there is an urgent need by a CPD grantee to immediately complete an infrastructure project because of a threat to life, safety, or property of residents and the community.	The public interest waiver for exigent circumstances is effective from November 23, 2022, for a period of five years ending on November 23, 2027, or such shorter time as HUD may announce via Notice.
De Minimis, Small Grants, and Minor Components	HUD issued a public interest <i>de minimis</i> , small grants, and minor components waiver titled <u>“Public Interest De Minimis and Small Grants Waiver of Build America, Buy America Provisions as Applied to Certain Recipients of HUD Federal Financial Assistance”</u> . This waives the BAP for all infrastructure projects whose total cost (from all funding sources) is equal to or less than the simplified acquisition threshold at 2 CFR 200.1 which is currently \$250,000. This Notice also waives the application of the BAP for a	The public interest <i>de minimis</i> , small grants, and minor components waiver is effective from November 23, 2022, for a period of five years ending on November 23, 2027, or such shorter time as HUD may announce via Notice.

General Waiver Type	Purpose	Effective Dates
	<i>de minimis</i> portion of an infrastructure project, meaning a cumulative total of no more than five percent of the total cost of the iron, steel, manufactured products, and construction materials used in and incorporated into the infrastructure project, up to a maximum of \$1 million.	
Tribal Recipients Waiver	HUD issued a public interest waiver, <u>“Extension of Public Interest, General Applicability Waiver of Build America, Buy America Provisions as Applied to Tribal Recipients of HUD Federal Financial Assistance: Final Notice”</u> for the BAP as it applies to Tribal recipients. HUD will consult with Tribally Designated Housing Entities and other Tribal Entities on how to apply the BAP.	The waiver of the BAP as it applies to Tribal recipients is effective from May 23, 2023, until May 23, 2024.

HUD Project-Specific Waivers

Additionally, a CPD grantee may request a project-specific waiver from the BAP for covered FFA on a limited, case-by-case basis. HUD may grant a project specific waiver after consultation and review with the OMB’s MIAO. As with the general waivers, under Section 70914(b) HUD may issue a project-specific waiver to the BAP if it is determined that a waiver falls into one of the following three categories: 1) when applying the domestic content procurement preference would be inconsistent with the public interest, 2) when types of iron, steel, manufactured product or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality, or 3) where the inclusion of those products and materials will increase the cost of the overall project by more than 25 percent. A waiver for a specific project may vary depending upon the circumstances of the project, and specific items, products, or materials in question.

Understanding HUD’s Phased Implementation Approach

Under Section 70914(a), the BAP for covered FFA infrastructure projects, including those funded by CPD programs, was required to be in effect no later than 180 days after it was signed into law. Thus, starting May 14, 2022, all new awards of covered FFA for infrastructure projects obligated by HUD would have had a BAP under BABA. Due to the short implementation period of 180 days, and to allow for the domestic industry and FFA recipients to have the time and notice necessary to implement BABA efficiently and effectively, HUD issued several general public

interest waivers, including a Phased Implementation Waiver. Over the course of two years, under this waiver, HUD will implement the BAP in an incremental process for all HUD programs, including CPD programs, to come into compliance with BABA. This phased approach is also intended to reduce the burden on grantees due to the uncertain costs of compliance with the BAP. This approach is also intended to provide transparency concerning the full implementation plans in connection with HUD infrastructure projects. HUD wants to avoid any unnecessary and undue hardships that could jeopardize the timely and cost-effective completion of projects that previously were not subject to a BAP and to allow time for grantees to come into full compliance.

In the table below, the columns identify four separate categories of covered materials subject to the BAP (iron and steel, specifically listed construction materials, not listed construction materials, and manufactured products) and the rows identify covered HUD programs. To use the table, find the program that funds the project under consideration, then find the covered materials that will be used in the project. The cell in the table where the applicable row and column intersect indicates the date on which the BAP will begin applying to the specific materials used in the project under consideration. It is important to note that the date of obligation is the date on which HUD executed the legal instrument creating the relationship between HUD and the grantee for an award of FFA, commonly the date the grant agreement is signed by HUD.

Phased Implementation Schedule for HUD Programs

The table below outlines the phased implementation timeline for HUD’s covered programs published in the Phased Implementation Waiver.

BAP will apply to...	Iron and Steel	Construction Materials – Specifically Listed	Construction Materials – Not Listed	Manufactured Products
CDBG Formula Grants	All funds obligated on or after November 15, 2022	As of the date HUD obligates new FFA from Fiscal Year 2024 appropriations	As of the date HUD obligates new FFA from Fiscal Year 2025 appropriations	As of the date HUD obligates new FFA from Fiscal Year 2025 appropriations
Choice Neighborhood, Lead Hazard Reduction, and Healthy Homes Production Grants	New FFA obligated by HUD on or after February 22, 2023	New FFA obligated by HUD on or after August 23, 2024	New FFA obligated by HUD on or after August 23, 2024	New FFA obligated by HUD on or after August 23, 2024
Recovery Housing Program (RHP) Grants	New FFA obligated by HUD on or after August 23, 2023	As of the date HUD obligates new FFA from Fiscal Year 2024 appropriations	As of the date HUD obligates new FFA from Fiscal Year 2025 appropriations	As of the date HUD obligates new FFA from Fiscal Year 2025 appropriations
All HUD other FFA except HOME, Housing Trust Fund, and Public Housing FFA used for maintenance projects	New FFA obligated by HUD on or after February 22, 2024	New FFA obligated by HUD on or after August 23, 2024	New FFA obligated by HUD on or after August 23, 2024	New FFA obligated by HUD on or after August 23, 2024
HOME, Housing Trust Fund, and Public Housing FFA used for maintenance projects	New FFA obligated by HUD on or after August 23, 2024	New FFA obligated by HUD on or after August 23, 2024	New FFA obligated by HUD on or after August 23, 2024	New FFA obligated by HUD on or after August 23, 2024

Phased Implementation Schedule for CPD Programs

Covered CPD programs began applying the BAP for infrastructure projects not covered under a general waiver for specific materials in phases beginning on November 15, 2022, and through FY2025. This section describes when the BAP applies to specific Covered CPD programs in accordance with HUD’s Phased Implementation Waiver.

Iron or Steel		
CPD Program	BAP Effective Date	Implementation Examples
CDBG	The BAP first applied to CDBG funds, obligated on or after November 15, 2022, and that will be used to purchase iron and steel for infrastructure projects.	This means CDBG grants obligated via a CDBG grant agreement signed by HUD on or after November 15, 2022, are subject to the BAP. CDBG grants obligated via a CDBG grant agreement signed by HUD prior to November 15, 2022, are not subject to the BAP.
RHP	The BAP will apply to RHP funds obligated on or after August 23, 2023, used to purchase iron or steel for infrastructure projects.	This means RHP grants obligated via a RHP grant agreement signed by HUD on or after August 23, 2023, are subject to the BAP. A RHP grant obligated via a grant agreement signed by HUD prior to August 23, 2023, is not subject to the BAP.
ESG, CoC, HOPWA, SHOP, VHRMP, CPF/EDI, Section 4, Rural Capacity Building, Pro Housing, PRICE, PSH, and NOFOs	The BAP will apply to funds from all other covered CPD programs, except HOME and HTF, obligated on or after February 22, 2024, used to purchase iron or steel for infrastructure projects.	Grantees should identify the execution date by HUD on the grant agreement or other legal instrument. The BAP applies to funds obligated by HUD on or after February 22, 2024. For HOPWA competitive grants, obligation is the date the award letter is signed. HOPWA competitive grantees should compare the date on its award letter to the February 22, 2024, to determine if its grant is subject to the BAP. EDI Community Project Funding has a different obligation determination. Grantees should consult their Congressional Grant Officer for more information.
HOME & HTF	The BAP will apply to HOME and HTF funds obligated on or after August 23, 2024, used to purchase iron or steel for infrastructure projects.	This means HOME and HTF grants obligated via grant agreements signed by HUD on or after August 23, 2024, are subject to the BAP. A HOME or HTF grant obligated via a grant agreement signed by HUD prior to August 23, 2024, is not subject to the BAP.

Materials Other Than Iron or Steel		
	CDBG & RHP Programs	All Other Covered CPD Programs
Specifically Listed Construction Materials (Non-Ferrous Metals, Lumber, Composite Building Materials, Plastic and Polymer Based Pipe and Tube)	The BAP will apply to FY2024 and subsequent CDBG and RHP awards used to purchase specifically listed construction materials as well as to purchase iron and steel.	The BAP will apply to funds from all other Covered CPD programs obligated on or after August 23, 2024, used for the purchase of specifically listed construction materials as well as iron and steel for infrastructure projects.
Not Listed Construction Materials	The BAP will apply to FY2025 and subsequent CDBG and RHP awards used to purchase not listed construction materials for infrastructure projects.	The BAP will apply to all Covered CPD program (except CDBG and RHP) funds obligated on or after August 23, 2024, used for the purchase of not listed construction materials, as well as specifically listed construction materials and iron and steel, for infrastructure projects.
Manufactured Products	The BAP will apply to FY2025 and subsequent CDBG and RHP awards used to purchase manufactured products as well as specifically listed construction materials and iron and steel, for infrastructure projects.	The BAP will apply to all Covered CPD program funds (except CDBG and RHP) obligated on or after August 23, 2024, used for the purchase of manufactured products for infrastructure projects.

Applying the BAP and HUD Waivers to CPD Programs

Once the BAP applies to an infrastructure project, a grantee must:

1. Comply with the BAP, or
2. Utilize one of HUD's general waivers, or
3. Obtain a project-specific waiver to exclude the project from the BAP.

As a part of its record keeping, a CPD grantee should document its process to analyze if the BAP applies to a project using the approach below:

Step 1: Type of project/activity

Are the funds being used for an infrastructure project, as defined by BABA and explained in this notice?

- If yes, proceed to step 2.
- If no, the BAP does not apply. The BAP only applies to infrastructure projects.

Step 2: Funding source

Identify the source(s) of the project funding, including CPD funding, HUD funding or other Federal agency funding that must comply with BABA. Does the project funding include any Covered CPD Programs listed in this notice? (Note: The BAP does not apply to funds that are for pre- or post-disaster or emergency response.)

- If yes, and HUD contributes the largest portion of Federal funds to the project, proceed to step 3.
- If yes, and another Federal agency contributes the largest portion of Federal funds to the project, that Federal agency is the “Cognizant Agency for Made in America”, and the grantee should follow that agency’s guidance for applicability of the BAP to the project.
- If no, then the project does not need to comply with the BAP for CPD funds but may need to comply with the BAP due to the inclusion of other HUD or Federal funding sources.

Step 3: Materials

Identify the materials that will be used in this infrastructure project. Does the project use materials subject to the BAP (iron or steel, specifically listed construction materials, not listed construction materials, or manufactured products), identified in this Notice?

- If yes, proceed to step 4.
- If no, then the BAP does not apply. The BAP only applies to covered materials.

Step 4: Date of obligation

Consult the Phased Implementation Waiver schedule table. Identify the cell that corresponds to the Covered CPD Program funding and materials used in your project. This cell identifies the date on which the BAP will apply for the Covered CPD Program and the materials. Based on the date of obligation of the Covered CPD Program funds, does the BAP apply to the funding source and materials that will be used in your project?

- If yes, proceed to step 5.
- If no, the BAP does not apply.

Step 5: General waivers

Consider the available HUD General Waivers. As of this Notice, there are three general waivers that may be utilized as an alternative to compliance with the BAP under the Phased Implementation Waiver: 1) Exigent Circumstances Waiver, 2) the De Minimis, Small Grants, and Minor Components Waiver, and 3) the Tribal Recipients Waiver. Analyze each available HUD general waiver, based upon the specific requirements of that waiver.

1. *Exigent Circumstances Waiver*: Is there an urgent need to immediately complete the project because of a threat to life, safety, or property of residents and the community?
 - If yes, the Exigent Circumstances Waiver may apply, and the project would not be subject to the BAP.
2. *De Minimis, Small Grants, and Minor Components Waiver*: Is the total cost of the project equal to or less than \$250,000?
 - If yes, the *De Minimis*, Small Grants, and Minor Components Waiver may apply, and the project would not be subject to the BAP.

OR

This waiver can be applied to a portion of the products used in an infrastructure project if the cumulative cost of those products does not exceed five percent of the total cost of covered products used in the project (up to \$1 million).

- In that case, the BAP would be waived for part of the project, but the rest of the project would still need to comply with the BAP.

3. *Tribal Recipients Waiver:* Is the project being funded by a Tribal recipient?

- If yes, the Tribal Recipients Waiver may apply, and the project would not be subject to the BAP. (This is rare for CPD programs.)
- If no to General Waiver questions 1, 2, and 3, proceed to Step 6.

Step 6: Project-specific waivers

Consider the criteria for project-specific waivers. Project-specific waivers to the BAP may be available if it is determined that a waiver falls into one of the following three categories: 1) when applying the domestic content procurement preference would be inconsistent with the public interest, 2) when types of iron, steel, manufactured product or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality, or 3) where the inclusion of those products and materials will increase the cost of the overall project by more than 25 percent. Project-specific waivers are available on a limited, case-by-case basis, after HUD's consultation and review with OMB's MIAO.

1. Would applying the BAP to the project be inconsistent with the public interest?
 - If yes, a project-specific waiver may be considered.
2. Are the types of iron, steel, manufactured products, or construction materials used in the project not produced in the United States in sufficient and reasonable available quantities or of a satisfactory quality?
 - If yes, a project-specific waiver may be considered.
3. Would the inclusion of iron, steel, manufactured products, or construction materials produced in the United States increase the cost of the overall project by more than 25 percent?
 - If yes, a project-specific waiver may be considered.
 - If no to Project specific waiver questions 1, 2, and 3, the BAP likely applies to the project and the project should comply with the requirements of the BAP.

Grantees should consult the entirety of this Notice and other applicable BABA guidance before making a determination on BAP applicability to a specific project. Grantees should reach out to their local CPD field office if they require additional assistance with determining BAP applicability.

Federal Government-wide Guidance on Project/Product-Specific Waivers

Under Section 70914(b), BABA allows a Federal agency, such as HUD, to waive the BAP for covered FFA in three instances: 1) when applying the domestic content procurement preference would be inconsistent with the public interest, 2) when types of iron, steel, manufactured product or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality, or 3) where the inclusion of those products and materials will increase the cost of the overall project by more than 25 percent. To direct Federal agencies on how to implement this waiver process, OMB issued guidance that HUD will follow when reviewing a waiver request from a CPD grantee. According to OMB, agencies may reject or grant waivers in whole or in part. When an agency is considering a waiver, it should, to the greatest extent possible, be issued at the project level and be product specific. When that is not possible, an agency may issue a broader waiver. The agency should follow three principles before issuing any type of waiver:

- 1) The waiver may be time-limited, meaning it is issued for a certain period of time, rather than for a specific project. For example, a time-limited waiver may apply when an item that is “nonavailable” is widely used in projects funded by a particular program.
- 2) The waiver should be targeted, meaning it should only apply to specific item(s), product(s), or material(s) or category(ies) of item(s), product(s), or material(s).
- 3) The waiver may be conditional with conditions that support the policies of BABA.

OMB guidance outlined the waiver review process for agencies to follow before issuing a waiver. Based on this guidance, HUD is developing its Department-wide project-specific waiver process. For HUD to consider a project or product-specific waiver it must:

- Have a detailed justification for the use of goods, products, or materials mined, produced, or manufactured outside the United States.
- A certification that there was a good faith effort to solicit bids for domestic products supported by terms included in requests for proposals, contracts, and nonproprietary communications with potential suppliers.
- In addition, at a minimum and to the greatest extent practicable, each proposed waiver submitted for consideration by the MIAO should include the following information, as applicable:
 - Waiver type (nonavailability, unreasonable cost, or public interest).
 - Recipient name and Unique Entity Identifier (UEI).
 - Federal awarding agency organizational information (e.g., Common Government-wide Accounting Classification (CGAC) Agency Code).
 - Financial assistance listing name and number.
 - Federal financial assistance program name.
 - Federal Award Identification Number (FAIN) (if available).
 - Federal financial assistance funding amount.

- Total estimated infrastructure expenditures, including all Federal and non-Federal funds (to the extent known).
- Infrastructure project description and location (to the extent known).
- List of iron or steel item(s), manufactured products, and construction material(s) proposed to be excepted from Buy America requirements, including name, cost, country(ies) of origin (if known), and relevant PSC and NAICS code for each.
- A certification that the Federal official or assistance recipient made a good faith effort to solicit bids for domestic products supported by terms included in requests for proposals, contracts, and nonproprietary communications with the prime contractor.
- A statement of waiver justification, including a description of efforts made (e.g., market research, industry outreach), by the Federal awarding agency and, in the case of a project or award specific waiver, by the recipient, in an attempt to avoid the need for a waiver. Such a justification may cite, if applicable, the absence of any Buy America-compliant bids received in response to a solicitation.
- Anticipated impact if no waiver is issued.
- Any relevant comments received through the public comment period.

The purpose of the information is to ensure that HUD has adequate information to perform due diligence, that MIAO has sufficient information to determine whether the proposed waiver is consistent with law and policy, and that sufficient information is available for public review. Information provided for public review should help interested manufacturers gauge the demand for products for which agencies are considering waiving a Buy America preference.

Once HUD has reviewed all required information, it will notify OMB's MIAO. The purpose of this consultation is for the MIAO to identify any opportunities to structure the waiver to maximize the use of goods, products, and materials produced in the United States to the greatest extent possible consistent with law. Following this consultation with MIAO, HUD is required to post the proposed waiver on its BABA website with a detailed written explanation of the proposed determination to issue the waiver and must provide at least 15 days for public comment. General applicability waivers require a minimum 30-day public comment period. Once the public comment period ends, HUD will submit the proposed waiver to MIAO to determine if the waiver is consistent with applicable law and policy. The MIAO will notify the agency of its determination of the proposed waiver. Only after this process has been completed may the HUD issue the waiver.

Applying for a HUD Specific Waiver

Prior to seeking a waiver, grantees should determine if and how BABA applies and follow measures to maximize compliance with the BAP based on the above guidance. At this time, HUD's BABA waiver process is as follows:

1. Contact CPDBABA@hud.gov for BABA technical assistance as needed.
2. Prepare a "[Build America Buy America Waiver Request](#)" with the information required by the MIAO.

3. Submit a waiver application with all necessary information to HUD at BuildAmericaBuyAmerica@hud.gov.
 - HUD is currently using email while an automated process is under development.
4. Provide additional information as requested by HUD during the review process to proceed with public comment in the Federal Register, and final approval by MIAO.
5. HUD reviews waivers before they are posted to the Federal Register for public comment and sent to the MIAO for approval. If approved, the waiver is posted on MadeInAmerica.gov.

CPD Grantees Receiving Funds from Multiple Federal Agencies

For CPD grantees that receive funds from multiple Federal agencies for an infrastructure project, the Federal agency contributing the greatest amount of covered FFA for the project will be considered the “Cognizant Agency for Made in America,” according to OMB Guidance. This lead agency should take responsibility for coordinating with the other Federal awarding agencies. Such coordination will provide uniform waiver criteria and adjudication processes, minimize duplicative efforts among Federal agencies, and reduce burdens on recipients. The Cognizant Agency for Made in America shall be responsible for consulting with the other Federal awarding agencies, publicizing the proposed joint waiver, and submitting the proposed joint waiver for review to MIAO.

CPD Record Keeping Requirements

To comply with BABA, the BAP must be included in the terms and conditions of all federal awards including subawards, contracts, and purchase orders for the work performed or products supplied for infrastructure projects. CPD grantees should document the process to analyze if the BAP applies to a project using the approach in this Notice and collect records to demonstrate compliance with BABA requirements. Records should be consistent with existing records retention requirements for each of the Covered CPD programs. If there are no CPD program-specific records requirements, the CPD grantee may follow “retention requirements for records,” under 2 CFR § 200.334 as applicable to Federal grants.

HUD will issue guidance about reporting on BABA required activities under 24 CFR 91.520, at a later date. At this time, CPD is working to include the BAP into its existing CPD systems (Integrated Disbursement and Information System, Disaster Recovery Grant Reporting System) for grantees to generate reports to track progress and compliance with BABA. Additional details on record keeping requirements will be determined by HUD and shared with CPD grantees as it is available.

V. Contact Information

Grantees that have questions on this Notice should contact their assigned HUD Field Office Representative or send their request directly to CPDBABA@hud.gov. CPD Field Offices should direct inquiries and comments to their program desk officer.

Addendum 1

Frequently Asked Questions

General Information

1. What is BABA? What is the “Buy America Preference”?

The Build America, Buy America (BABA) Act was enacted on November 15, 2021, as part of the Infrastructure Investment and Jobs Act (IIJA) (Pub. L. No. 117-58) also known as the Bipartisan Infrastructure Law. BABA establishes a domestic content procurement preference known as the “Buy America Preference” (BAP) for Federal infrastructure spending. The BAP requires that all iron, steel, manufactured products, and construction materials used in infrastructure projects funded with Federal financial assistance must be produced in the United States.

2. What types of Federal financial assistance (FFA) are subject to the BAP?

FFA subject to BABA includes all expenditures by a Federal agency to a non-Federal entity for an infrastructure project, including grants, cooperative agreements, non-cash contributions or donations of property, direct assistance, loans, loan guarantees, and other types of financial assistance.

3. What projects or activities does the BAP apply to?

The BAP applies to the iron, steel, construction materials, and manufactured products used in infrastructure projects funded by Federal financial assistance (FFA), which includes covered materials and covered activities. Infrastructure projects include construction, alteration, maintenance, or repair of any infrastructure in the United States as defined in the next paragraph and in the Definitions section of this Notice.

The term “infrastructure” includes the structures, facilities, and equipment for projects traditionally considered infrastructure, including buildings and real property. For CPD programs, this may include, but is not limited to, certain funding for:

- road and sidewalk improvement projects;
- water, sewer, and other utility projects;
- broadband infrastructure;
- housing construction and rehabilitation;
- community facility construction and rehabilitation;
- homeless shelter construction and rehabilitation;
- and other CPD-funded activities that are defined as infrastructure according to BABA (section 70912(5)).

4. What materials does the BAP apply to?

The BAP requires that all iron, steel, manufactured products, and construction materials used in infrastructure projects funded with Federal financial assistance must be produced in the United States.

5. What does “produced in the United States” mean for materials to which the BAP applies?

The term “produced in the United States,” as defined in 2 CFR 184.3, means:

- in the case of iron or steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- in the case of manufactured products that:
 - the product was manufactured in the United States; and
 - the cost of components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard that meets or exceeds this standard has been established under applicable law or regulation for determining the minimum amount of domestic content of the manufactured product; and
- in the case of construction materials, that all manufacturing processes for the construction material occurred in the United States.

CPD Program Specific

6. Which CPD programs are subject to the BAP?

Any CPD program that can be used for the purpose of infrastructure as defined by BABA. These programs are considered Covered CPD programs.

7. Which CPD funds or programs are NOT subject to the BAP?

The BAP does not apply to Federal funds for “pre and post disaster or emergency response” according to BABA. Therefore, at the time of publication of this notice, the BAP does not apply to the following CPD funds or programs that administer disaster related FFA:

- Community Development Block Grant Disaster Recovery Funds (CDBG-DR)
- Community Development Block Grant Mitigation (CDBG-MIT)
- Community Development Block Grant – National Disaster Resilience Competition (CDBG-NDR)
- Community Development Block Grant CARES Act (CDBG-CV)
- Housing Opportunities for Persons With AIDS CARES Act (HOPWA-CV)
- Emergency Solutions Grants CARES Act (ESG-CV)

The Community Compass Technical Assistance program is also excluded from the BAP as the program does not fund any covered infrastructure activities.

- 8. I am funding a project with CDBG funds that were obligated (i.e., the grant agreement was signed by HUD) before November 15, 2022. Does the BAP apply?**

No, the BAP does not apply to HUD funds that were obligated before November 15, 2022. HUD defines the date of obligation as the date that HUD signed the agreement with the grantee. The BAP will apply to CDBG funds used for iron or steel that were obligated on or after November 15, 2022.

There is an additional consideration. If FY funds for which BABA applies are added to this infrastructure project, BABA then will apply to the entire project.

- 9. I am a grantee funding a project with CDBG funds that were obligated (i.e., the grant agreement was signed by HUD) on or after November 15, 2022. Does the BAP apply?**

If the CDBG funds used in your infrastructure project were obligated on or after November 15, 2022, the BAP will apply to all iron or steel used in the project, unless a waiver applies to the project. If these BABA funds are applied to an infrastructure project that does not have a BAP, the addition of these funds will attach BABA to the entire project. BABA would apply as described in HUD's Phased Implementation Waiver unless there is a project-specific waiver approved by the MIAO.

- 10. I am funding a public facilities project with total FFA of \$2,500,000. \$400,000 of CDBG funds are being used for engineering and administration fees of a project. Other federal funding will pay for the remaining construction activities. Is the BAP applicable to this project?**

Yes, the total project cost is over \$250,000 and the project is construction of an infrastructure project. The total cost of a project must not exceed \$250,000 from all sources to qualify for an exemption of the BAP under HUD's general waiver for small projects.

Documentation and Grant Management

- 11. Does the BAP apply to subrecipients or contractors?**

In most cases, yes, the BAP requirements apply to subgrantees, including subrecipients, contractors, and developers who are awarded Federal financial assistance for use in public infrastructure projects. The BAP requirements apply to all FFA and do not distinguish between the end user of the federal funds. The BAP applies as long as the funding is derived from a Federal agency, even if they are a pass-through entity unless a particular section of the terms and conditions of the Federal award specifically indicates otherwise.

12. Is there standard language grantees can include in subrecipient/bid contract documents?

Grantees should include the BABA language from their grant agreement in any subrecipient and bid contract documents to ensure BABA compliance by subrecipients, developers and/or contractors. Please refer to Addendum 3 for the language used in CPD grant agreements.

Waivers

13. Are there any waivers available for the BAP?

There are currently four general applicability waivers in effect for HUD programs that apply to CPD programs: 1) Phased Implementation Waiver, 2) Exigent Circumstances Waiver, 3) *De Minimis*, Small Grants, and Minor Components Waiver, and 4) Tribal Recipients Waiver. The details of each of these waivers can be found in Section IV of this Notice, or by visiting HUD's BABA website to see the latest available HUD waivers at: https://www.hud.gov/program_offices/general_counsel/baba. Waivers, as they are approved by the MIAO, will be updated on HUD's website.

14. Will there be project or product specific waivers of the BAP?

In addition to HUD's general waivers, HUD may also grant "project-specific" waivers from the BAP for covered FFA on a limited, case-by-case basis, after consultation and review with the MIAO at OMB. HUD may issue a project-specific waiver to the BAP if it is determined that a waiver falls into one of the following three categories: 1) when applying the domestic content procurement preference would be inconsistent with the public interest, 2) when types of iron, steel, manufactured product or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality, or 3) where the inclusion of those products and materials will increase the cost of the overall project by more than 25 percent. A waiver for a specific project may vary depending upon the circumstances of the project, and specific items, products, or materials in question. HUD is currently developing the process through which a grantee may request a waiver. More information will be made available once that process is developed.

Addendum 2

Examples of BAP for CPD Programs

This appendix provides a selection of illustrative examples to assist grantees in determining if the BAP applies to their projects.

Example 1: A grantee funds a water and sewer project containing iron and steel. The project is funded using \$1 million in FY23 CDBG funding. The total Federal financial assistance for the project is \$3 million.

The BAP applies to this project because it is a CDBG project using funding obligated on or after November 15, 2022, the project contains iron or steel, and the total cost of the project is greater than the simplified acquisition threshold at 2 CFR 200.1 which is currently \$250,000.

Example 2: A grantee funds a water and sewer project containing iron and steel. The project is funded using \$100,000 in FY23 CDBG funding. The total Federal financial assistance for the project is \$2 million.

The BAP applies to this project because it is a CDBG project using funding obligated on or after November 15, 2022, the project contains iron or steel, and the total cost of the project is greater than \$250,000.

Example 3: A participating jurisdiction contributes \$2 million in HOME funds for construction of a multi-unit residential building, which includes iron or steel. The funds are obligated by HUD on July 15, 2023.

The BAP does not apply to this project because the BAP will not apply to HOME funds used for iron or steel until August 23, 2024.

Example 4: A participating jurisdiction contributes \$2 million in HOME funds for the construction of a multi-unit residential building, using iron or steel. The funds are obligated by HUD after August 23, 2024.

The BAP applies to this project because the project includes iron or steel, the total cost of the project is greater than \$250,000, and the project uses HOME funds obligated after the date on which the BAP begins to apply to HOME funds used for iron or steel.

Example 5: A grantee funds acquisition of land using \$300,000 in Recovery Housing Program (RHP) funds that were obligated on September 1, 2023. The acquisition is part of a multifamily housing construction project containing iron or steel.

The BAP applies because the purpose of the funding is a covered activity (construction) that includes iron or steel. The total cost of the project from all sources is greater than \$250,000 and the funds are obligated after the date on which the BAP applies to RHP funds used for iron or steel.

Example 6: A grantee purchases a fire engine which will serve a low- to -moderate-income neighborhood. The grantees uses \$300,000 in FY23 CDBG funding for the purchase.

The BAP does not apply because the funding is not used for a covered activity (construction, alteration, maintenance, or repair) for an infrastructure project.

Example 7: A grantee uses \$400,000 in Recovery Housing Program (RHP) funds to rehabilitate a multi-unit residential building, using iron or steel. The funds are obligated by HUD after August 23, 2023.

The BAP applies to this project because it uses iron or steel, the total cost of the project is greater than \$250,000, and the project uses RHP funding that is obligated after the date on which the BAP begins to apply to RHP funds used for iron or steel (August 23, 2023).

Addendum 3

Sample BABA Language in Grant Agreements

The language below is included in all CPD program NOFOs and grant agreements. Similar to other cross cutting requirements, grantees should include the following BABA language in all contracts and agreements with subrecipients, contractors, developers and subgrantees. Grantees and subrecipients should include this language in any NOFOs and procurement bid/contract documents to ensure BABA compliance by subgrantees, developers and/or contractors.

The Grantee must comply with the requirements of the Build America, Buy America (BABA) Act, 41 USC 8301 note, and all applicable rules and notices, as may be amended, if applicable to the Grantee's infrastructure project. Pursuant to HUD's Notice, "Public Interest Phased Implementation Waiver for FY 2022 and 2023 of Build America, Buy America Provisions as Applied to Recipients of HUD Federal Financial Assistance" (88 FR 17001), any funds obligated by HUD on or after the applicable listed effective dates, are subject to BABA requirements, unless excepted by a waiver.

DOCUMENT 000115 - LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

- A. Drawings: Drawings consist of the Contract Drawings and other drawings listed on the Table of Contents page of the separately bound drawing set titled BID SET, dated February 20, 2026, as modified by subsequent Addenda and Contract modifications.
- B. List of Drawings: Drawings consist of the following Contract Drawings and other drawings of type indicated:

GENERAL INFORMATION

T101	TITLE SHEET
LS101	LIFE SAFETY PLANS AND CODE INFORMATION
HC101	ACCESSIBILITY DETAILS

STRUCTURAL

S001	GENERAL NOTES
S101	FOUNDATION LOWER LEVEL PLANS
S102	FRAMING PLANS
S201	FRAMING ELEVATIONS
S301	STRUCTURAL SECTIONS & DETAILS I
S302	STRUCTURAL SECTIONS & DETAILS II
S303	STRUCTURAL SECTIONS & DETAILS III
S304	STRUCTURAL SECTIONS & DETAILS IV

ARCHITECTURAL

AD101	DEMOLITION FLOOR PLANS
A001	ASSEMBLIES
A101	LOWER LEVEL FLOOR PLAN
A102	FIRST LEVEL FLOOR PLAN
A151	ROOF DEMOLITION PLAN AND ROOF PLAN
A152	ROOF DETAILS
AR101	REFLECTED CEILING PLANS
A201	EXTERIOR ELEVATIONS
A202	COMMON AREA INTERIOR ELEVATIONS
A203	STOREFRONT ELEVATIONS
A301	WALL SECTIONS
A302	STAIR SECTION
A303	SOUTH ENTRANCE SECTION
A401	UNIT PLANS – TYPE A & B
A402	UNIT PLAN - TYPE A.1
A403	UNIT PLANS – TYPE C & D
A404	UNIT PLANS – TYPE E & F
A501	DETAILS
A502	STOREFRONT DETAILS
A503	WINDOW AND DOOR DETAILS
A504	ZIP DETAILS

A505	ZIP DETAILS
A601	SCHEDULES

PLUMBING

P001	LEGENDS, NOTES AND ABBREVIATIONS
P002	FIXTURE PLATES
P003	FIXTURE PLATES
P101	LOWER LEVEL AND FIRST FLOOR PLAN
P102	ROOF PLAN
P401	ENLARGED PLANS
P501	DETAILS
P601	WATER RISER DIAGRAM
P602	WATER RISER DIAGRAMS
P701	SPECIFICATIONS

MECHANICAL

M001	LEGENDS, NOTES AND ABBREVIATIONS
M101	LOWER LEVEL AND FIRST FLOOR PLAN
M102	ROOF PLAN
M401	ENLARGED PLANS
M501	DETAILS
M601	SCHEDULES AND CONTROLS
M701	SPECIFICATIONS

ELECTRICAL

E001	LEGENDS, NOTES AND ABBREVIATIONS
E002	LEGEND AND ABBREVIATIONS
E101	LOWER LEVEL AND FIRST FLOOR LIGHTING PLAN
E201	LOWER LEVEL AND FIRST FLOOR POWER PLAN
E202	ROOF POWER PLAN
E301	LOWER LEVEL AND FIRST FLOOR SPECIAL SYSTEMS PLAN
E401	ENLARGED PLANS
E501	DETAILS
E502	DETAILS
E503	DETAILS
E504	DETAILS
E601	RISER DIAGRAM
E602	PANELBOARD SCHEDULES
E603	SCHEDULES
E701	SPECIFICATIONS
E702	SPECIFICATIONS

END OF DOCUMENT 000115

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 PROJECT INFORMATION

- A. Project Identification: Glen's Fair Price Building – Adaptive Reuse.
 - 1. Project Location: 227 North Main Street, Harrisonburg Virginia 22802.
- B. Owner: Harrisonburg Redevelopment and Housing Authority.
- C. Architect: Arnold Design Studio, LLC
- D. Architect's Consultants: Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:
 - 1. Mechanical and Plumbing Engineering:
 - a. Pace Collaborative, 1277 Perimeter Parkway, Virginia Beach, Virginia 23454.
 - 2. Electrical Engineering:
 - a. Pace Collaborative, 1277 Perimeter Parkway, Virginia Beach, Virginia 23454.
- E. Contractor:
 - 1. TBD.
- F. The Work consists of the adaptive reuse of the existing building into seventeen (17) apartment units on the first floor and office space on the ground floor.
- G. Work by Owner: Coordination of Cable/TV provider.
- H. Work Under Separate Contracts:
 - 1. Security System

1.2 WORK RESTRICTIONS

- A. Contractor's Use of Premises: During construction, Contractor will have **full** use of the **site** and **building** indicated. Contractor's use of premises is limited only by Owner's right to perform work or employ other contractors on portions of Project **and as follows**:
 - 1. Driveways, Walkways, and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
- B. On-Site Work Hours: Limit work in the existing buildings to normal business working hours of 8a.m. to 5 p.m., Monday through Friday, unless otherwise indicated.

1. Weekend Hours: Not permitted unless agreed to in advance with the permission of the Owner.
 2. Early Morning Hours: Not permitted unless agreed to in advance with the permission of the Owner.
- C. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012000 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 ALLOWANCES

- A. Advise Architect of the date when selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.
- D. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- E. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight and delivery to Project site.
- F. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.2 UNIT PRICES

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.
- B. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- C. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

1.3 PAYMENT PROCEDURES

- A. Submit a Schedule of Values at least seven days before the initial Application for Payment. Break down the Contract Sum into at least one-line item for each Specification Section in the Project Manual table of contents. Coordinate the schedule of values with Contractor's construction schedule.

1. Arrange schedule of values consistent with format of AIA Document G703.
 2. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 3. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 4. Provide separate line items in the schedule of values for initial cost of materials and for total installed value of that part of the Work.
 5. Provide a separate line item in the schedule of values for each allowance.
- B. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- C. Submit three copies of each application for payment according to the schedule established in Owner/Contractor Agreement.
1. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor.
 2. With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 3. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - a. Include insurance certificates, proof that taxes, fees, and similar obligations were paid, and evidence that claims have been settled.
 - b. Include affidavit of payment of debts and claims on AIA Document G706.
 - c. Include affidavit of release of liens on AIA Document G706A.
 - d. Include consent of surety to final payment on AIA Document G707 or post a letter of credit.
 - e. Submit final meter readings for utilities, a record of stored fuel, and similar data as of the date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES

- A. Property sign: Allow the sum of \$20,000.00 for property sign.

END OF SECTION 012000

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUBSTITUTION PROCEDURES

- A. Substitutions include changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A.
 - 2. Submit requests within seven days after the Notice to Proceed.
 - 3. Identify product to be replaced and show compliance with requirements for substitutions. Include a detailed comparison of significant qualities of proposed substitution with those of the Work specified, a list of changes needed to other parts of the Work required to accommodate proposed substitution, and any proposed changes in the Contract Sum or the Contract Time should the substitution be accepted.
- C. Architect will review proposed substitutions and notify Contractor of their acceptance or rejection by Change Order. If necessary, Architect will request additional information or documentation for evaluation.
 - 1. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- D. Do not submit unapproved substitutions on Shop Drawings or other submittals.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 CONTRACT MODIFICATION PROCEDURES

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."
- B. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work.
 - 1. Proposal Requests are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time.
- C. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
- D. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701, for all changes to the Contract Sum or the Contract Time.
- E. Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- F. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 013000 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 PROJECT MANAGEMENT AND COORDINATION

- A. Subcontract List: Submit a written summary identifying individuals or firms proposed for each portion of the Work. Use CSI Form 1.5A.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. List e-mail addresses and telephone numbers.
- C. Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
- D. Requests for Information (RFIs): On discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI. Use AIA Document G716 or forms acceptable to Architect and Owner.
- E. Schedule and conduct progress meetings at Project site at monthly intervals. Notify Owner and Architect of meeting dates and times. Require attendance of each subcontractor or other entity concerned with current progress or involved in planning, coordination, or performance of future activities.
 - 1. Record minutes and distribute to everyone concerned, including Owner and Architect.

1.2 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
 - 1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
 - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Contractor shall execute a data licensing agreement in the form of AIA Document C106, Digital Data Licensing Agreement.
- B. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

1. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 2. Submit three copies of each action submittal. Architect will return two copies.
 3. Submit two copies of each informational submittal. Architect will not return copies.
 4. Architect will return submittals, without review, received from sources other than Contractor.
 5. Preferred submittal form is Electronic Submittal, but Architect will accept Paper Submittals. Follow procedures below for Paper Submittals and Electronic Submittals.
- C. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with unique identifier, including project identifier, Specification Section number, and revision identifier.
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
- D. Identify options requiring selection by Architect.
- E. Identify deviations from the Contract Documents on submittals.
- F. Contractor's Construction Schedule Submittal Procedure:
1. Submit required submittals in the following format:
 - a. Working electronic copy of schedule file, where indicated.
 - b. PDF electronic file.
 2. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 - a. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
 3. Coordinate Contractor's construction schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections.
 - 1. Submit electronic submittals via email as PDF electronic files.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2.2 ACTION SUBMITTALS

- A. Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
- B. Product Data: Mark each copy to show applicable products and options. Include the following:
 - 1. Manufacturer's written recommendations, product specifications, and installation instructions.
 - 2. Wiring diagrams showing factory-installed wiring.
 - 3. Printed performance curves and operational range diagrams.
 - 4. Testing by recognized testing agency.
 - 5. Compliance with specified standards and requirements.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data. Submit on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches. Include the following:
 - 1. Dimensions and identification of products.
 - 2. Fabrication and installation drawings and roughing-in and setting diagrams.
 - 3. Wiring diagrams showing field-installed wiring.
 - 4. Notation of coordination requirements.
 - 5. Notation of dimensions established by field measurement.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture and for a comparison of these characteristics between submittal and actual component as delivered and installed. Include name of manufacturer and product name on label.
 - 1. If variation is inherent in material or product, submit at least three sets of paired units that show variations.

2.3 INFORMATIONAL SUBMITTALS

- A. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
- B. Qualification Data: Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

2.4 DELEGATED DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit three copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

2.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type schedule within 30 days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
- C. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.
- D. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and indicate date by which recovery will be accomplished.

PART 3 - EXECUTION

3.1 SUBMITTAL REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Architect will review each action submittal, make marks to indicate corrections or modifications required, will stamp each submittal with an action stamp, and will mark stamp appropriately to indicate action.
- C. Informational Submittals: Architect will review each submittal and will not return it or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

3.2 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. As the Work progresses, indicate Actual Completion percentage for each activity.
- B. Distribute copies of approved schedule to Owner, Architect, subcontractors, testing and inspecting agencies, and parties identified by Contractor with a need-to-know schedule responsibility. When revisions are made, distribute updated schedules to the same parties.

END OF SECTION 013000

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
- B. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements, comply with the most stringent requirement. Refer uncertainties to Architect for a decision.
- C. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum. The actual installation may exceed the minimum within reasonable limits. Indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision.
- D. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
 - 2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.
- E. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- F. Delegated Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design

professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

- G. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, notices, receipts for fee payments, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.
- H. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated.
- I. Testing Agency Qualifications: An independent agency with the experience and capability to conduct testing and inspecting indicated; and where required by authorities having jurisdiction, that is acceptable to authorities.
- J. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- K. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Architect and Contractor of irregularities or deficiencies in the Work observed during performance of its services.
 - 2. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
 - 3. Do not perform any duties of Contractor.
- L. Associated Services: Cooperate with testing agencies and provide reasonable auxiliary services as requested. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Security and protection for samples and for testing and inspecting equipment.
- M. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

- N. Special Tests and Inspections: Owner will engage a qualified testing agency and special inspector to conduct special tests and inspections required by authorities having jurisdiction.

PART 2 - (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
- B. Repair and protection are the Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- B. Abbreviations and Acronyms: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The)
AAADM	American Association of Automatic Door Manufacturers
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABAA	Air Barrier Association of America
ABMA	American Bearing Manufacturers Association
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AEIC	Association of Edison Illuminating Companies, Inc. (The)
AF&PA	American Forest & Paper Association
AGA	American Gas Association
AHAM	Association of Home Appliance Manufacturers
AHRI	Air-Conditioning, Heating, and Refrigeration Institute, The
AI	Asphalt Institute
AIA	American Institute of Architects (The)

AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standard Committee, Incorporated
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
AOSA	Association of Official Seed Analysts, Inc.
APA	Architectural Precast Association
APA	APA - The Engineered Wood Association
API	American Petroleum Institute
ARI	Air-Conditioning & Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASCE	American Society of Civil Engineers
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	ASME International (American Society of Mechanical Engineers International)
ASSE	American Society of Sanitary Engineering
ASTM	ASTM International (American Society for Testing and Materials International)
AWCI	Association of the Wall and Ceiling Industry
AWCMA	American Window Covering Manufacturers Association (Now WCMA)
AWI	Architectural Woodwork Institute
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association)
AWS	American Welding Society

AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)
BICSI	BICSI, Inc.
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International)
BISSC	Baking Industry Sanitation Standards Committee
CCC	Carpet Cushion Council
CDA	Copper Development Association
CEA	Canadian Electricity Association
CEA	Consumer Electronics Association
CFFA	Chemical Fabrics & Film Association, Inc.
CGA	Compressed Gas Association
CIMA	Cellulose Insulation Manufacturers Association
CISCA	Ceilings & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CPA	Composite Panel Association
CPPA	Corrugated Polyethylene Pipe Association
CRI	Carpet and Rug Institute (The)
CRRC	Cool Roof Rating Council
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSA	CSA International (Formerly: IAS - International Approval Services)
CSI	Cast Stone Institute

CSI	Construction Specifications Institute (The)
CSSB	Cedar Shake & Shingle Bureau
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute)
DHI	Door and Hardware Institute
EIA	Electronic Industries Alliance
EIMA	EIFS Industry Members Association
EJCDC	Engineers Joint Contract Documents Committee
EJMA	Expansion Joint Manufacturers Association, Inc.
ESD	ESD Association (Electrostatic Discharge Association)
ETL SEMCO	Intertek ETL SEMCO (Formerly: ITS - Intertek Testing Service NA)
FM Approvals	FM Approvals LLC
FM Global	FM Global (Formerly: FMG - FM Global)
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.
FSA	Fluid Sealing Association
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
GRI	(Part of GSI)
GS	Green Seal
GSI	Geosynthetic Institute
HI	Hydronics Institute
HI/GAMA	Hydronics Institute/Gas Appliance Manufacturers Association Division of Air-Conditioning, Heating, and Refrigeration Institute (AHRI)
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)

HPVA	Hardwood Plywood & Veneer Association
IAPSC	International Association of Professional Security Consultants
ICBO	International Conference of Building Officials
ICEA	Insulated Cable Engineers Association, Inc.
ICPA	International Cast Polymer Association
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
IESNA	Illuminating Engineering Society of North America
IEST	Institute of Environmental Sciences and Technology
IGMA	Insulating Glass Manufacturers Alliance
ILI	Indiana Limestone Institute of America, Inc.
ISA	Instrumentation, Systems, and Automation Society, The
ISO	International Organization for Standardization Available from ANSI
ISSFA	International Solid Surface Fabricators Association
ITS	Intertek Testing Service NA (Now ETL SEMCO)
ITU	International Telecommunication Union
KCMA	Kitchen Cabinet Manufacturers Association
LGSEA	Light Gauge Steel Engineers Association
LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturers Association
MCA	Metal Construction Association
MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association, Inc.

MH	Material Handling (Now MHIA)
MHIA	Material Handling Industry of America
MIA	Marble Institute of America
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International (National Association of Corrosion Engineers International)
NADCA	National Air Duct Cleaners Association
NAGWS	National Association for Girls and Women in Sport
NAIMA	North American Insulation Manufacturers Association
NBGQA	National Building Granite Quarries Association, Inc.
NCMA	National Concrete Masonry Association
NCTA	National Cable & Telecommunications Association
NEBB	National Environmental Balancing Bureau
NECA	National Electrical Contractors Association
NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NETA	InterNational Electrical Testing Association
NFPA	NFPA (National Fire Protection Association)
NFRC	National Fenestration Rating Council
NGA	National Glass Association
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NOFMA	NOFMA: The Wood Flooring Manufacturers Association

(Formerly: National Oak Flooring Manufacturers Association)

NOMMA	National Ornamental & Miscellaneous Metals Association
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	NSF International (National Sanitation Foundation International)
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
PCI	Precast/Prestressed Concrete Institute
PDI	Plumbing & Drainage Institute
PGI	PVC Geomembrane Institute
PTI	Post-Tensioning Institute
RCSC	Research Council on Structural Connections
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service
SAE	SAE International
SCAQMD	South Coast Air Quality Management District
SCTE	Society of Cable Telecommunications Engineers
SDI	Steel Deck Institute
SDI	Steel Door Institute
SEFA	Scientific Equipment and Furniture Association
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)
SIA	Security Industry Association
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors'

	National Association
SMPTE	Society of Motion Picture and Television Engineers
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division)
SPIB	Southern Pine Inspection Bureau (The)
SPRI	Single Ply Roofing Industry
SSINA	Specialty Steel Industry of North America
SSPC	SSPC: The Society for Protective Coatings
STI	Steel Tank Institute
SWI	Steel Window Institute
TCNA	Tile Council of North America, Inc.
TEMA	Tubular Exchanger Manufacturers Association
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
TMS	The Masonry Society
TPI	Truss Plate Institute, Inc.
TPI	Turfgrass Producers International
TRI	Tile Roofing Institute
UL	Underwriters Laboratories Inc.
UNI	Uni-Bell PVC Pipe Association
USGBC	U.S. Green Building Council
USITT	United States Institute for Theatre Technology, Inc.
WASTEC	Waste Equipment Technology Association
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association)

WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California)
WIC	Woodwork Institute of California (Now WI)
WMMPA	Wood Moulding & Millwork Producers Association
WSRCA	Western States Roofing Contractors Association
WWPA	Western Wood Products Association

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

DIN	Deutsches Institut fur Normung e.V.
IAPMO	International Association of Plumbing and Mechanical Officials
ICC	International Code Council
ICC-ES	ICC Evaluation Service, Inc.
DIN	Deutsches Institut fur Normung e.V.
IAPMO	International Association of Plumbing and Mechanical Officials
ICC	International Code Council
ICC-ES	ICC Evaluation Service, Inc.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Use Charges: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated.
- B. Water and Electric Power: Provide connections and extensions of services as required for construction operations.
- C. Erosion- and Sedimentation-Control Plan: Submit plan showing compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- D. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- E. Accessible Temporary Egress: Comply with applicable provisions in ICC A117.1.
- F. Smoking: Prohibit smoking within building lines, structures, or enclosures, including outdoor areas within 25 feet of building lines, and adjacent to building entrances, roof areas, mechanical, or equipment spaces, unfinished spaces, open windows, and air intakes. Prohibit smoking in common use temporary facilities such as field offices, toilets, and storage or fabrication trailers, and sheds. Enforce requirements beginning at time of jobsite mobilization and continue until final completion.
 - 1. Designate permissible outdoor smoking areas for contractor personnel and instruct construction personnel as to their location. Provide fire safe ash receptacles and maintain designated smoking areas in a litter-free condition.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts and top and bottom rails.

2.2 TEMPORARY FACILITIES

- A. Provide field offices, storage and fabrication sheds, and other support facilities as necessary for construction operations. Store combustible materials apart from building.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 - 3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV **13** at each return-air grille in system and remove at end of construction.

PART 3 - EXECUTION

3.1 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
- C. Heating and Cooling: Provide temporary heating and cooling required for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- D. Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

3.2 SUPPORT FACILITIES INSTALLATION

- A. Install project identification and other signs in locations approved by Owner to inform the public and persons seeking entrance to Project.
- B. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.

3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- B. Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings.
- C. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- D. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.
- E. Furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
- F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- G. Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
- H. Install and maintain temporary fire-protection facilities. Comply with NFPA 241.

3.4 MOISTURE AND MOLD CONTROL

- A. Before installation of weather barriers, protect materials from water damage and keep porous and organic materials from coming into prolonged contact with concrete.
 - 1. Protect stored and installed material from flowing or standing water.
 - 2. Remove standing water from decks.
 - 3. Keep deck openings covered or dammed.
- B. After installation of weather barriers but before full enclosure and conditioning of building, protect as follows:
 - 1. Do not load or install drywall or porous materials into partially enclosed building.
 - 2. Discard water-damaged material.
 - 3. Do not install material that is wet.
 - 4. Discard, replace, or clean stored or installed material that begins to grow mold.

5. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

C. Moisture Monitoring and Sampling Protocol During Construction:

1. Building Dry-in (Baseline Protocol)
 - a. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
 - b. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
 - 1) Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
 - c. Generate readings following Dry-In to produce a *baseline*.
 - d. Dry-In should include roof (felt and shingles), WRB, all doors and windows.
 - e. Take 4 measurements per floor as shown in attached building plan.
 - 1) Mark bottom plate at location of measurement.
 - 2) Take measurement at same location
 - 3) Take measurement weekly
 - 4) Record interior temperature and RH
 - 5) Record exterior temperature and RH
2. Concrete / Gypcrete
 - a. Allow a minimum of 5-7 days drying for concrete / gypcrete.
 - b. Make record of indoor/outdoor temperature and weather conditions at time of sample taking, testing and inspecting
 - c. As soon as possible following installation of gypcrete; stage dehumidifiers and fans with in building. Verify condensate discharges away from the building.
 - d. Crack windows 3" per manufacturer's recommendations for ventilation. Only proceed with opening windows if ambient conditions meet manufacturer requirements.
 - e. Monitor RH within building. Goal for drying out building is to get RH to 55% or lower.
 - f. Following 5 days of drying perform ASTM F2170 RH probe testing - OR - Test slab in accordance with ASTM D4263 - 83(2012) Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method. Slab relative humidity should be <80% prior to the installation of flooring or related materials.
 - g. Refer to baseline protocol, perform base plate moisture testing prior to proceeding with insulation.

- h. If results are satisfactory, proceed with insulation, otherwise, continue drying for 1-2 days and repeat testing.
- 3. Insulation
 - a. Make record of indoor/outdoor temperature and weather conditions at time of sample taking, testing and inspecting
 - b. Install insulation
 - c. Take RH measurements within units (both within the building / unit and continue with protocol).
 - d. Target indoor RH of 50-55% prior to proceeding with drywall
- 4. Drywall, Trim, HVAC Startup
 - a. Make record of indoor/outdoor temperature and weather conditions at time of sample taking, testing and inspecting
 - b. Install drywall once non-treated framing members reach <14% moisture content (MC)
 - c. Building must be dried out prior to drywall if moisture contents are consistently above 14%.
 - d. Continue indoor RH monitoring at same units identified for baseline until building / unit turnover. Following drywall, only take RH and temperature readings.
 - e. At HVAC startup, set units to 75°F cool and place signage that no windows are to be opened.

OPERATION, TERMINATION, AND REMOVAL

- D. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- E. Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion.
- F. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period.

Project Name - Construction Moisture Monitoring Protocol

Date		1-Aug	8-Aug	15-Aug	22-Aug	29-Aug	5-Sep	12-Sep	19-Sep	26-Sep	3-Oct
Room/Unit #	Bottom Plate										
	Temperature										
	RH										
Room/Unit #	Bottom Plate										
	Temperature										
	RH										
Room/Unit #	Bottom Plate										
	Temperature										
	RH										
Room/Unit #	Bottom Plate										
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Room/Unit #	Bottom Plate										
	Temperature										
	RH										
Room/Unit #	Bottom Plate										
	Temperature										
	RH										

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
- B. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced.
 - 1. Show compliance with requirements for comparable product requests.
 - 2. Architect will review the proposed product and notify Contractor of its acceptance or rejection.
- C. Basis-of-Design Product Specification Submittal: Show compliance with requirements.
- D. Compatibility of Options: If Contractor is given option of selecting between two or more products, select product compatible with products previously selected.
- E. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Deliver products to Project site in manufacturer's original sealed container or packaging, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 3. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 - 4. Store materials in a manner that will not endanger Project structure.
 - 5. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
- F. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. Provide products that comply with the Contract Documents, are undamaged, and, unless otherwise indicated, are new at the time of installation.
 - 1. Provide products complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.
 - 2. Where products are accompanied by the term "as selected," Architect will make selection.
 - 3. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Where the following headings are used to list products or manufacturers, the Contractor's options for product selection are as follows:
 - 1. Products:
 - a. Where requirements include "one of the following," provide one of the products listed that complies with requirements.
 - b. Where requirements do not include "one of the following," provide one of the products listed that complies with requirements or a comparable product.
 - 2. Manufacturers:
 - a. Where requirements include "one of the following," provide a product that complies with requirements by one of the listed manufacturers.
 - b. Where requirements do not include "one of the following," provide a product that complies with requirements by one of the listed manufacturers or another manufacturer.
 - 3. Basis-of-Design Product: Provide the product named, or indicated on the Drawings, or a comparable product by one of the listed manufacturers.
- C. Where Specifications require "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
- D. Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Architect will consider Contractor's request for comparable product when the following conditions are satisfied:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications.
3. List of similar installations for completed projects, if requested.
4. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017000 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 EXECUTION REQUIREMENTS

- A. Certificates: Submit certificate signed by professional engineer certifying that location and elevation of improvements comply with requirements.
- B. Cutting and Patching:
 - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching.
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.2 CLOSEOUT SUBMITTALS

- A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- B. Certified List of Incomplete Items: Final submittal at Final Completion.
- C. Operation and Maintenance Data: Submit 1 copy of manual.
- D. PDF Electronic File: Assemble manual into a composite electronically indexed file. Submit on digital media.
- E. Record Drawings: Submit 1 set of marked-up record prints.
- F. Record Digital Data Files: Submit data file and one set(s) of plots.
- G. Record Product Data: Submit 1 paper copy or annotated PDF electronic files and directories of each submittal.

1.3 SUBSTANTIAL COMPLETION PROCEDURES

- A. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
- B. Submittals Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:
 - 1. Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other sections, including project record documents, operation and maintenance manuals, property surveys, similar final record information, warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 3. Submit maintenance material submittals specified in other sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect.
 - 4. Submit test/adjust/balance records.
 - 5. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Make final changeover of permanent locks and deliver keys to Owner.
 - 3. Complete startup and testing of systems and equipment.
 - 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 - 5. Advise Owner of changeover in heat and other utilities.
 - 6. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 - 7. Remove temporary facilities and controls.
 - 8. Complete final cleaning requirements, including touchup painting.
 - 9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will proceed with inspection or advise Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.

1.4 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting inspection for determining final completion, complete the following:
 - 1. Submit a final Application for Payment.

2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report.
- B. Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare final Certificate for Payment after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
- B. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

2.2 OPERATION AND MAINTENANCE DOCUMENTATION

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information.
- B. Organization: Unless otherwise indicated, organize manual into separate sections for each system and subsystem, and separate sections for each piece of equipment not part of a system.
- C. Organize data into three-ring binders with identification on front and spine of each binder, and envelopes for folded drawings. Include the following:
 1. Manufacturer's operation and maintenance documentation.
 2. Maintenance and service schedules.

3. Maintenance service contracts. Include name and telephone number of service agent.
4. Emergency instructions.
5. Spare parts list and local sources of maintenance materials.
6. Wiring diagrams.
7. Copies of warranties. Include procedures to follow and required notifications for warranty claims

2.3 RECORD DRAWINGS

- A. Record Prints: Maintain a set of prints of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued. Mark to show actual installation where installation varies from that shown originally. Accurately record information in an acceptable drawing technique.
 1. Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings.
 1. Format: Annotated PDF electronic file.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.
- B. Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance.
 1. Verify compatibility with and suitability of substrates.
 2. Examine roughing-in for mechanical and electrical systems.
 3. Examine walls, floors, and roofs for suitable conditions.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Take field measurements as required to fit the Work properly. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.

- E. Verify space requirements and dimensions of items shown diagrammatically on Drawings.

3.2 CONSTRUCTION LAYOUT AND FIELD ENGINEERING

- A. Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks.
- B. Engage a professional engineer to lay out the Work using accepted surveying practices.

3.3 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 3. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations.
- C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- D. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed.
- E. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
- F. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- G. Use products, cleaners, and installation materials that are not considered hazardous.

3.4 CUTTING AND PATCHING

- A. Provide temporary support of work to be cut.

- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- D. Cutting: Cut in-place construction using methods least likely to damage elements retained or adjoining construction.
 - 1. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
- E. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
 - 1. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - 2. Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance.
 - 3. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

3.5 CLEANING

- A. Clean Project site and work areas daily, including common areas. Dispose of materials lawfully.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
 - 3. Remove debris from concealed spaces before enclosing the space.
- B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion:
 - 1. Clean Project site, yard, and grounds, in areas disturbed by construction activities. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - 2. Sweep paved areas broom clean. Remove spills, stains, and other foreign deposits.
 - 3. Remove labels that are not permanent.
 - 4. Clean transparent materials, including mirrors. Remove excess glazing compounds.

5. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Sweep concrete floors broom clean.
6. Vacuum carpeted surfaces and wax resilient flooring.
7. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and foreign substances. Clean plumbing fixtures. Clean light fixtures, lamps, globes, and reflectors.
8. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

3.6 OPERATION AND MAINTENANCE MANUAL PREPARATION

- A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- B. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 1. Prepare supplementary text if manufacturers' standard printed data are unavailable and where the information is necessary for proper operation and maintenance of equipment or systems.
- C. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams.

3.7 DEMONSTRATION AND TRAINING

- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system. Include a detailed review of the following:
 1. Include instruction for basis of system design and operational requirements, review of documentation, emergency procedures, operations, adjustments, troubleshooting, maintenance, and repairs.
 2. Provide video copy of instruction for Owner's use.

END OF SECTION 017000

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Action Submittals:

1. Waste Management Plan: Submit plan within seven days of date established for commencement of the Work.

B. Informational Submittals:

1. Waste Reduction Progress Reports: Submit concurrent with each Application for Payment. Include total quantity of waste, total quantity of waste salvaged and recycled, and percentage of total waste salvaged and recycled.
2. Records of Donations and Sales: Receipts for salvageable waste donated or sold to individuals and organizations. . Indicate whether organization is tax exempt.
3. Recycling and Processing Facility Records: Manifests, weight tickets, receipts, and invoices.
4. Landfill and Incinerator Disposal Records: Manifests, weight tickets, receipts, and invoices.
5. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations.

C. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

D. Waste Management Conference: Conduct conference at Project site to comply with requirements in Section 013000 "Administrative Requirements." Review methods and procedures related to waste management.

E. Waste Management Plan: Develop a waste management plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

1. Salvaged Materials for Reuse: Identify materials that will be salvaged and reused.
2. Salvaged Materials for Sale: Identify materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: Identify materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.

4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total nonhazardous solid waste generated by the Work.
 1. Required: No construction materials shall be burned or buried on job site or anywhere but in a state-approved landfill.
 2. Recycling beverage containers for work crews.
 3. Central cut area.
 4. Donation of excess materials or re-use (min \$500/job).
 5. Posted and enforced job site waste management plan – recycle 75% of 3 materials.
 6. Divert 75% of wood.
 7. Divert 75% of cardboard.
 8. Divert 75% of metal.
 9. Divert 75% of unpainted drywall (recycle or grind and spread on site).
 10. Divert 75% of plastics.

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
 1. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

3.2 RECYCLING WASTE

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 2. Polystyrene Packaging: Separate and bag materials.
 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- C. Asphaltic Concrete Paving: Grind asphalt to maximum 1-1/2-inch size.
- D. Asphaltic Concrete Paving: Break up and transport paving to asphalt-recycling facility.
- E. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
1. Pulverize concrete to maximum 1-1/2-inch size.
- F. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
1. Pulverize masonry to maximum 3/4-inch size.
 2. Clean and stack undamaged, whole masonry units on wood pallets.
- G. Wood Materials:
1. Sort and stack reusable members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
 2. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 3. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- H. Metals: Separate metals by type.
- I. Asphalt Shingle Roofing: Remove and dispose of nails, staples, and accessories.
- J. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.
1. Painted gypsum not approved for recycling.
- K. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- L. Conduit: Reduce conduit to straight lengths and store by type and size.
- 3.3 DISPOSAL OF WASTE
- A. Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

- B. Do not burn waste materials.

END OF SECTION 017419

SECTION 02220 - DEMOLITION WITHOUT ASBESTOS ABATEMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplemental General Conditions, Special Conditions and Division 1 - Specifications Sections, apply to work of this section.

1.02 DESCRIPTION OF WORK:

- A. Work includes removal of all existing roof components (non-asbestos) as indicated on the plans to the existing metal/concrete deck. The Owner has the right to retain all or any part for their use.
- B. First layer of permanent flashing to be installed by end of each day's work. Tear-off no more that can be installed Watertight each day
- C. Demo to include complete of the existing roofing systems to the roof deck.
- D. This is to include all roofing components (i.e. edge metal, wall flashing, drains, vent pipes, mechanical equipment & associated feeds, skylights, blocking, metal framing, etc.)
- E. Demo is expected to not disturb any asbestos material.

1.03 POLLUTION CONTROLS

- A. Use water sprinkling, temporary enclosures and other suitable methods to limit dust rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
- B. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding and pollution.
- C. Clean adjacent structures and improvements of dust, dirt and debris caused by demolition operations, as directed by architectural governing authorities. Return adjacent areas to condition existing prior to start of work.

1.04 PROTECTION OF BUILDING AND ROOF ACCESSORIES

- A. The Contractor shall be responsible for protection of the building, existing roof accessories and any metal flashing, copings, etc. all in complete accordance with Special Conditions.
- B. If the Contractor damages or fails to protect or salvage any items not noted to be renewed or replaced under this contract, then such damaged items shall be repaired or replaced by the Contractor to the complete satisfaction of the Owner and A/E at no additional cost to the Owner.

- C. Contractor shall coordinate and schedule the removal of the existing roof with the installation of the new roof, and provide temporary roof protection to the building and its contents from the elements at all times. Contractor shall submit and review his plan with the A/E before work can proceed.
- D. Ensure safe passage of persons around area of demolition. Conduct operations to prevent damage to adjacent buildings, structures, and other facilities and injury to persons.
- E. Provide safety measures at work site as per OSHA Regulations and any other authorities having jurisdiction.
- F. Remove protections at completion of work.
- G. Coordinate all work with Owner and Henrico Co.

1.05 DEMOLITION

- A. Demolish designated areas completely and remove from site, except for material indicated to remain or to be installed, or salvageable. Use an enclosed chute to remove material from the roof. Removed material shall go directly from roof to approved container. Material shall not be placed on ground or other areas of building.
- B. Proceed with demolition in systematic manner.
- C. Demolish designated areas in small sections.
- D. Break up and/or remove materials, unless otherwise shown to remain or to be reused.
- E. Locate demolition equipment on the structure and remove materials so as not to impose excessive loads to supporting walls, floors, framing or ceilings.
- F. For roof areas denoted on the plans as "Tear-Off", remove all existing roof assembly components down to the deck. Clean top surface of existing decking so that no protrusion or debris remains.

1.06 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove from site debris, rubbish and other materials resulting from demolition operations.
- B. Transport waste materials removed during demolition and dispose of off site. Do not store waste material on site without concealing in suitable waste containers.

1.07 EXISTING ROOF COMPOSITION

- A. It is recommended for the Contractor to inspect and verify existing roof conditions and composition prior to bidding.

- B. Owner or A/E assumes no responsibility for condition of structures to be demolished/removed.

1.08 TRAFFIC

- A. Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
- B. Do not close or obstruct streets, walks or other occupied or used facilities without permission from authorities having jurisdiction.

1.09 SCHEDULE

- A. Submit schedule indicating proposed sequence of operations for selective demolition work to Owner's Representative for review prior to start of work. Include coordination with other work to be performed, together with details for dust and noise control.
- B. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.

END OF SECTION 022200

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Items indicated to be removed and salvaged remain Owner's property. Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner. Include fasteners or brackets needed for reattachment elsewhere.
- B. Predemolition Photographs: Show existing conditions of adjoining construction and site improvements. Submit before Work begins.
- C. It is not expected that hazardous materials will be encountered in the Work. If hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with EPA regulations and with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 DEMOLITION

- A. Maintain services/systems indicated to remain and protect them against damage during selective demolition operations. Before proceeding with demolition, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of the building.
- B. Locate, identify, shut off, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
- C. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.
- D. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

- E. Protect walls, ceilings, floors, and other existing finish work that are to remain. Erect and maintain dustproof partitions. Cover and protect furniture, furnishings, and equipment that have not been removed.
- F. Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
- G. Provide temporary weather protection to prevent water leakage and damage to structure and interior areas.
- H. Requirements for Building Reuse:
 - 1. Maintain existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing, excluding window assemblies and nonstructural roofing material) not indicated to be demolished; do not demolish such existing construction beyond indicated limits.
 - 2. Maintain existing interior nonstructural elements (interior walls, doors, floor coverings, and ceiling systems) not indicated to be demolished; do not demolish such existing construction beyond indicated limits.
- I. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.
- J. Remove demolition waste materials from Project site and legally dispose of them in an EPA-approved landfill. Do not burn demolished materials.
- K. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Allowances: Furnish face brick under the Face Brick Allowance specified in Section 012000 "Price and Payment Procedures."
- B. See Section 055000 "Metal Fabrications" for furnishing steel lintels and shelf angles for unit masonry.
- C. Submittals:
 - 1. Samples for face brick and colored mortar.
 - 2. Material Certificates: For each type of product indicated. Include statements of material properties indicating compliance with requirements.
- D. Sample Panels: Construct a sample wall panel approximately 48 inches long by 48 inches high to demonstrate aesthetic effects and set quality standards for materials and execution.

PART 2 - PRODUCTS

2.1 UNIT MASONRY

- A. Comply with ACI 530.1/ASCE 6/TMS 602.

2.2 MASONRY UNITS

- A. Concrete Masonry Units: ASTM C 90; Density Classification, Lightweight.
 - 1. Special shapes for lintels, corners, jambs, sash, control joints, and other special conditions.
 - 2. Square-edged units for outside corners unless otherwise indicated.
- B. Face Brick: ASTM C 216, Grade SW, Type FBS.
 - 1. Solid brick with exposed surfaces finished for ends of sills and caps.
 - 2. Special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

2.3 MORTAR AND GROUT

- A. Mortar: ASTM C 270, proportion specification.
 - 1. Use portland cement-lime or masonry cement mortar.
 - 2. Do not use calcium chloride in mortar.

3. For masonry below grade or in contact with earth, use Type S.
4. For reinforced masonry, use Type S.
5. For exterior, above-grade, non-load-bearing walls and for other applications where another type is not indicated, use Type N.
6. Colored Mortar: For face brick, use colored cement or cement-lime mix of color selected.
7. Water-Repellent Additive: For mortar used with concrete masonry units made with integral water repellent, use product recommended by manufacturer of units.

- B. Grout: ASTM C 476 with a slump of 8 to 11 inches.

2.4 REINFORCEMENT, TIES, AND ANCHORS

- A. Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.
- B. Joint Reinforcement: ASTM A 951.
1. Coating: Hot-dip galvanized at both interior and exterior walls.
 2. Wire Size for Side Rods: 0.148-inch diameter.
 3. Wire Size for Cross Rods: 0.148-inch diameter.
 4. For single-wythe masonry, provide either ladder design or truss design.
- C. Veneer Anchors: Hot-dip galvanized steel, two-piece adjustable masonry veneer anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall, for attachment over sheathing to studs, and acceptable to authorities having jurisdiction.
1. Provide anchors at 16" o.c. vertically and 24" o.c. horizontally.
 2. Products:
 - a. Dayton Superior Corporation, Dur-O-Wal Division; D/A 213 or D/A 210 with D/A 700-708.
 - b. Heckmann Building Products Inc.; 315-D with 316.
 - c. Hohmann & Barnard, Inc.; DW-10HS or DW-10-X.
 - d. Wire-Bond; 1004 or Type III RJ-711.

2.5 EMBEDDED FLASHING MATERIALS

- A. Sheet Metal Flashing: Stainless steel, 0.0156 inch thick.
- B. Rubberized Asphalt Sheet Flashing: Pliable, adhesive rubberized-asphalt compound, bonded to a polyethylene film to produce an overall thickness of 0.040 inch. Use only where flashing is fully concealed.
1. Products:
 - a. Advanced Building Products Inc.; Peel-N-Seal.
 - b. Carlisle Coatings & Waterproofing; CCW-705-TWF Thru-Wall Flashing.
 - c. Grace Construction Products, W. R. Grace & Co. - Conn.; Perm-A-Barrier Wall Flashing.
 - d. Heckmann Building Products Inc.; No. 82 Rubberized-Asphalt Thru-Wall Flashing.
 - e. Hohmann & Barnard, Inc.; Textroflash.

- f. W. R. Meadows, Inc.; Air-Shield Thru-Wall Flashing.

2.6 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded strips complying with ASTM D 1056, Grade 2A1.
- B. Preformed Control-Joint Gaskets: Designed to fit standard sash block and to maintain lateral stability in masonry wall; made from styrene-butadiene rubber or PVC.
- C. Weep Holes: Free-draining polyethylene mesh, full height and width of head joint.
- D. Cavity Drainage Material: Free-draining polymer mesh, full depth of cavity with dovetail shaped notches that prevent mortar clogging.
1. Products:
- a. Advanced Building Products Inc.; Mortar Break II.
- b. Archovations, Inc.; CavClear Masonry Mat.
- c. Dayton Superior Corporation, Dur-O-Wal Division; Polytite MortarStop.
- d. Mortar Net USA, Ltd.; Mortar Net..
- E. Proprietary Acidic Masonry Cleaner: Product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units.
1. Manufacturers:
- a. Diedrich Technologies, Inc.
- b. EaCo Chem, Inc.
- c. ProSoCo, Inc.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cut masonry units with saw. Install with cut surfaces and, where possible, cut edges concealed.
- B. Mix units for exposed unit masonry from several pallets or cubes as they are placed to produce uniform blend of colors and textures.
- C. Stopping and Resuming Work: Rack back units; do not tooth.
- D. Fill cores in hollow concrete masonry units with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.
- E. Tool exposed joints slightly concave when thumbprint hard unless otherwise indicated.
- F. Keep cavities clean of mortar droppings and other materials during construction.

3.2 LINTELS

- A. Install lintels where indicated.
- B. Minimum bearing of 8 inches at each jamb unless otherwise indicated.

3.3 FLASHING AND WEEP HOLES

- A. Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to the downward flow of water in the wall, and where indicated.
- B. Place through-wall flashing on sloping bed of mortar and cover with mortar. Seal penetrations in flashing before covering with mortar.
 - 1. Extend flashing 4 inches into masonry at each end and turn up 2 inches to form a pan.
- C. Trim wicking material used in weep holes flush with outside face of wall after mortar has set.

3.4 PARGING

- A. Parge masonry walls, where indicated, in two uniform coats with a steel-trowel finish. Form a wash at top of parging and a cove at bottom. Damp cure parging for at least 24 hours.

3.5 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections required by authorities having jurisdiction.
 - 1. Inspections: Level 1 special inspections according to the IBC.
 - 2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.

3.6 CLEANING

- A. Clean masonry as work progresses. Remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly cured, clean exposed masonry.
 - 1. Wet wall surfaces with water before applying acidic cleaner, then remove cleaner promptly by rinsing thoroughly with clear water.
 - 2. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

END OF SECTION 042000

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Shop Drawings.

PART 2 - PRODUCTS

2.1 METALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Bars: Hot-rolled, carbon steel complying with ASTM A 29/A 29M, Grade 1010.
- C. Steel Bars for Bar Gratings: ASTM A 36/A 36M or steel strip, ASTM A 1011/A 1011M or ASTM A 1018/A 1018M.
- D. Wire Rod for Bar Grating Crossbars: ASTM A 510.
- E. Rolled Steel Floor Plate: ASTM A 786/A 786M.
- F. Steel Tubing: ASTM A 500.
- G. Steel Pipe: ASTM A 53, standard weight (Schedule 40), black finish.

2.2 GROUT

- A. Nonshrink, Nonmetallic Grout: ASTM C 1107; recommended by manufacturer for exterior applications.

2.3 FABRICATION

- A. General: Shear and punch metals cleanly and accurately. Remove burrs and ease exposed edges. Form bent-metal corners to smallest radius possible without impairing work.
- B. Welding: Weld corners and seams continuously. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. At exposed connections, finish welds and surfaces smooth with contour of welded surface matching those adjacent.

1. Where welding cannot be concealed behind finished surfaces, finish joints to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 2 welds: completely sanded joint, some undercutting and pinholes okay.
- C. On units indicated to be cast into concrete or built into masonry, provide welded steel strap anchors, 1/8 by 1-1/2 inches, with a minimum 6-inch embedment and 2-inch hook, not less than 8 inches from ends and corners of units and 24 inches o.c.
- D. Fabricate steel girders for wood frame construction from continuous steel shapes of sizes indicated.
- E. Fabricate loose lintels from steel angles and shapes. Size to provide bearing length at each side of openings equal to one-twelfth of clear span, but not less than 8 inches.
- F. Fabricate ladders for locations shown, complying with ANSI A14.3, welded steel construction.

1. Manufacturers:

- a. ACL Industries, Inc.
- b. Alco-Lite Industrial Products.
- c. Halliday Products.
- d. O'Keeffe's Inc.
- e. Precision Ladders, LLC.
- f. Royalite Manufacturing, Inc.
- g. Thompson Fabricating, LLC.

2. For elevator pit ladders, comply with ASME A17.1/CSA B44.

- G. Fabricate pipe bollards from Schedule 40 steel pipe.

2.4 STEEL AND IRON FINISHES

- A. Hot-dip galvanize steel fabrications at exterior locations.
- B. Prepare uncoated ferrous metal surfaces to comply with SSPC-SP 3, "Power Tool Cleaning," and paint with a fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide anchorage devices and fasteners where needed to secure items to in-place construction.

- B. Perform cutting, drilling, and fitting required for installing miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack.
- C. Fit exposed connections accurately together to form hairline joints or, where indicated, with uniform reveals and spaces for sealants and joint fillers.
- D. Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.
- E. Fasten security bar frames to concrete and masonry walls with cast-in-place or post installed anchors. Peen exposed threads of anchors to prevent removal of security bars.
- F. Anchor bollards in concrete and fill solidly with concrete, mounding top surface.
- G. Paint portion of metal prior to embedment into concrete.

END OF SECTION 055000

SECTION 055100 - METAL STAIRS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings and structural analysis data signed and sealed by a qualified professional engineer registered in the state where Project is located.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers:
 - 1. Alfab, Inc.
 - 2. American Stair, Inc.
 - 3. Sharon Companies Ltd. (The).
 - 4. Hermitage Steel, Inc.
 - 5. DMB Construction, Inc.

2.2 PERFORMANCE REQUIREMENTS

- A. Provide stairs capable of withstanding a uniform load of 100 lbf/sq. ft. (4.79 kN/sq. m) and a concentrated load of 300 lbf (1.33 kN) applied on an area of 4 sq. in. (2580 sq. mm). Uniform and concentrated loads need not be assumed to act concurrently.
- B. Provide railings capable of withstanding a uniform load of 50 lbf/ft. (0.73 kN/m) and a concentrated load of 200 lbf (0.89 kN) applied to handrails and top rails of guards in any direction. Uniform and concentrated loads need not be assumed to act concurrently.
- C. Provide railing infill capable of withstanding a concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m). Infill load and other railing loads need not be assumed to act concurrently.

2.3 METALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Tubing: ASTM A 500 (cold formed) or ASTM A 513.
- C. Rolled Steel Floor Plate: ASTM A 786/A 786M.

- D. Iron Castings: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M.
- E. Uncoated, Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, either commercial steel, Type B, or structural steel, Grade 25 (Grade 170).
- F. Uncoated, Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, either commercial steel, Type B, or structural steel, Grade 30 (Grade 205).
- G. Expanded Metal, Carbon Steel: ASTM F 1267, Class 1 (uncoated).
- H. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), Alloy 6063-T6.

2.4 MISCELLANEOUS MATERIALS

- A. Extruded Aluminum Nosings: Ribbed-type extruded-aluminum units with abrasive filler consisting of aluminum-oxide or silicon-carbide grits, or a combination of both, in an epoxy-resin binder. Apply clear lacquer to concealed surfaces of units set into concrete.
 - 1. Manufacturers:
 - a. ACL Industries, Inc.
 - b. American Safety Tread Co., Inc.
 - c. Amstep Products.
 - d. Armstrong Products, Inc.
 - e. Balco Inc.
 - f. Granite State Casting Co.
 - g. Wooster Products Inc.
- B. Concrete: Comply with Section 033000 "Cast-in-Place Concrete" for normal-weight, air-entrained concrete with a minimum 28-day compressive strength of 3000 psi (20 MPa).
- C. Welded Wire Fabric: ASTM A 185, 6 by 6 inches (152 by 152 mm) - W1.4 by W1.4.

2.5 FABRICATION

- A. General: Shear and punch metals cleanly and accurately. Remove burrs and ease exposed edges. Form bent-metal corners to smallest radius possible without impairing work.
- B. Welding: Use materials and methods that minimize distortion and develop strength of base metals. At exposed connections, finish welds and surfaces smooth.
- C. Stair Framing: Fabricate stringers of steel plates or channels. Construct platforms of steel plate or channel headers and miscellaneous framing members.

- D. Metal-Pan Stairs: Form risers, subread pans, and subplatforms to configurations shown from steel sheet of thickness needed to comply with performance requirements, but not less than 0.067 inch (1.7 mm) thick.
- E. Abrasive-Coating-Finished, Formed-Metal Stairs: Form risers, treads, and platforms from steel sheet of thickness needed to comply with performance requirements, but not less than 0.097 inch (2.5 mm) thick. Finish tread and platform surfaces with manufacturer's standard, epoxy-bonded abrasive finish.
- F. Metal Floor Plate Stairs: Form treads and platforms from rolled-steel floor plate of thickness needed to comply with performance requirements, but not less than **3/16 inch (4.8 mm)** thick. Form treads with integral nosing and back edge stiffener. Weld steel supporting brackets to stringers and weld treads to brackets.
- G. Steel Tube Railings: Fabricate railings to comply with requirements indicated, but not less than that needed to withstand indicated loads.
 - 1. Configuration: 1-5/8-inch- (41-mm-) diameter top and bottom rails, 1-1/2-inch- (38-mm-) square posts, and 1/2-inch- (13-mm-) square pickets spaced less than 4 inches (100 mm) clear.
 - 2. Fabricate railings with welded connections. Cope components at connections to provide close fit, or use fittings designed for this purpose.
 - 3. Form changes in direction of railings by bending or by inserting prefabricated fittings.
 - 4. Provide wall brackets, end closures, flanges, miscellaneous fittings, and anchors for interconnecting components and for attaching to other work.
 - 5. Connect posts to stair framing by direct welding.

2.6 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Finish metal stairs after assembly.
- B. Hot-dip galvanize steel stairs at exterior locations.
- C. Prepare uncoated ferrous metal surfaces to comply with SSPC-SP 3, "Power Tool Cleaning," and paint with a fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Perform cutting, drilling, and fitting required for installing metal stairs. Set units accurately in location, alignment, and elevation, measured from established lines and levels and free of rack.

- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Place and finish concrete fill for treads and platforms to comply with Section 033000 "Cast-in-Place Concrete." Install abrasive nosings with anchors fully embedded in concrete.
- D. Attach handrails to wall with wall brackets. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt.

END OF SECTION 055100

SECTION 055200 - METAL RAILINGS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings, structural analysis data signed and sealed by a qualified professional engineer registered in the state where Project is located, and manufacturer's color charts showing the full range of colors available for factory-applied finishes.
- B. Manufacturer's Warranty: Provide 10-year manufacturer's warranty from Sherwin-Williams upon completion of the project. Contact Tom Schwartz from Sherwin-Williams at thomas.m.schwartz@sherwin.com for warranty paperwork prior to application of coatings specified within section 055200 METAL RAILINGS 2.5B and section 09900 PAINTING AND COATING Part 3.3C

PART 2 - PRODUCTS

2.1 RAILING SYSTEMS

- A. Provide railings capable of withstanding a uniform load of 50 lbf and a concentrated load of 200 lbf applied to handrails and top rails of guards in any direction. Uniform and concentrated loads need not be assumed to act concurrently.
- B. Provide railing infill capable of withstanding a concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft. Infill load and other railing loads need not be assumed to act concurrently.

2.2 METALS

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- B. Steel Tubing: ASTM A 500 (cold formed) or ASTM A 513.
- C. Steel Pipe: ASTM A 53, Schedule 40.
- D. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- E. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

2.3 OTHER MATERIALS

- A. Nonshrink, Nonmetallic Grout: ASTM C 1107; recommended by manufacturer for exterior applications.

2.4 FABRICATION

- A. Assemble railing systems in shop to the greatest extent possible. Use connections that maintain structural value of joined pieces.
- B. Form changes in direction of railing members by use of prefabricated fittings.
- C. Fabricate railing systems and handrails for connecting members with concealed mechanical fasteners and fittings.
- D. Provide manufacturer's standard wall brackets, flanges, miscellaneous fittings, and anchors to connect handrail and railing members to other construction.
- E. Provide wall returns at ends of wall-mounted handrails.

2.5 FINISHES

- A. Steel Railings: Cleaned and shop primed.
- B. Urethane System: (Solvent Base)
 - 1. Prime Coat: S-W Recoatable Epoxy Primer, B67-5 Series (6.0 mils wet, 4.0 mils dry)
 - 2. Intermediate Coat: Same as Finish Coat
 - 3. Finish Coat: S-W Hi-Solids Polyurethane, B65-350 Series (4.5 mils wet, 3.0 mils dry)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Fit exposed connections accurately together to form tight, hairline joints.
- B. Set railings accurately in location, alignment, and elevation and free of rack.
- C. Coat concealed surfaces of aluminum that will be in contact with cementitious materials or dissimilar metals, with a heavy coat of bituminous paint.
- D. Anchor posts in concrete by forming or core-drilling holes 5 inches deep and 3/4 inch greater than OD of post. Fill annular space between post and concrete with nonshrink, nonmetallic grout.

- E. Attach handrails to wall with wall brackets into solid wood blocking.
- F. Paint portion of metal prior to embedment into concrete.

END OF SECTION 055200

SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: ICC-ES evaluation reports for preservative-treated plywood and fire-retardant treated plywood.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS, GENERAL

- A. Plywood: DOC PS 1.
- B. Oriented Strand Board: DOC PS 2.

2.2 TREATED PLYWOOD

- A. Preservative-Treated Plywood: AWP A U1; Use Category UC2.
 - 1. Use treatment containing no arsenic or chromium.
 - 2. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
- B. Provide preservative-treated plywood for items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.
- C. Fire-Retardant-Treated Plywood: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
 - 1. Use Exterior type for exterior locations and where indicated.
 - 2. Use Interior Type A unless otherwise indicated.
 - 3. For roof sheathing and where high-temperature fire-retardant treatment is indicated, span ratings for temperatures up to 170 deg F shall be not less than span ratings specified.
 - 4. Identify with appropriate classification marking of a testing and inspecting agency acceptable to authorities having jurisdiction.
- D. Provide fire-retardant-treated plywood for items indicated on Drawings.

2.3 WALL SHEATHING

- A. Plywood Wall Sheathing: Exterior, Structural I sheathing.
- B. Oriented-Strand-Board Wall Sheathing: Exposure 1, Structural I sheathing.
- C. Glass-Mat Gypsum Wall Sheathing: ASTM C 1177/1177M.
 - 1. Products:
 - a. CertainTeed Corporation; GlasRoc.
 - b. G-P Gypsum Corporation; Dens-Glass Gold.
 - c. National Gypsum Company; Gold Bond e(2)XP.
 - d. United States Gypsum Co.; Securock.

2.4 ROOF SHEATHING

- A. Plywood Roof Sheathing: Exposure 1 sheathing.
- B. Oriented-Strand-Board Roof Sheathing: Exposure 1 sheathing.

2.5 SUBFLOORING AND UNDERLAYMENT

- A. Combination Subfloor-Underlayment:
 - 1. Plywood Combination Subfloor-Underlayment: DOC PS 1, Exterior, Structural I, C-C Plugged single-floor panels.
 - 2. Oriented-Strand-Board Combination Subfloor-Underlayment: Exposure 1 single-floor panels.
- B. Subflooring:
 - 1. Plywood Subflooring: Exterior, Structural I single-floor panels or sheathing.
 - 2. Oriented-Strand-Board Subflooring: Exposure 1, Structural I sheathing.

2.6 MISCELLANEOUS PRODUCTS

- A. Fasteners: Size and type indicated.
 - 1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
 - 2. Power-Driven Fasteners: CABO NER-272.
- B. Adhesives for Field Gluing Panels to Framing: APA AFG-01.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Securely attach to substrates, complying with the following:

1. CABO NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule," in the IBC.

B. Fastening Methods:

1. Combination Subfloor-Underlayment:
 - a. Glue and nail to wood framing.
2. Subflooring:
 - a. Glue and nail to wood framing.
3. Wall and Roof Sheathing:
 - a. Nail to wood framing.

END OF SECTION 061600

SECTION 061613 – INSULATING SHEATHING

GENERAL

1.1 SUMMARY

- A. Section includes insulating wall sheathing with integral water-resistive barrier and air barrier.

1.2 REFERENCES

American Society of Mechanical Engineers (ASME): www.asme.org

- 1. ASME B18.6.1 - Wood Screws (Inch Series)

- B. ASTM International (ASTM): www.astm.org

- 1. ASTM A153/A153M - Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
- 2. ASTM C1289 - Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
- 3. ASTM D779 - Test Method for Water Resistance of Paper, Paperboard, and Other Sheet Materials by the Dry Indicator Method
- 4. ASTM D1621 - Test Method for Compressive Properties Of Rigid Cellular Plastics
- 5. ASTM D2247 - Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
- 6. ASTM E96/E 96M - Test Methods for Water Vapor Transmission of Materials
- 7. ASTM E331 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- 8. ASTM E2357 - Test Method for Determining Air Leakage of Air Barrier Assemblies
- 9. ASTM F1667 - Specification for Driven Fasteners: Nails, Spikes, and Staples
- 10. ASTM G154 - Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials

- C. US Department of Commerce (DOC): <http://gsi.nist.gov/global/index.cfm/L1-5/I2-44/A-355>

- 1. DOC PS 2 - Performance Standard for Wood-Based Structural Panels

- D. International Code Council (ICC): www.iccsafe.org

- 1. ICC IBC - International Building Code
- 2. ICC IRC - International Residential Code for One and Two-Family Dwellings

- E. ICC Evaluation Service, Inc. (ICC-ES): www.icc-es.org

- 1. ICC-ES AC12 - Acceptance Criteria For Foam Plastic Insulation
- 2. ICC-ES AC38 - Acceptance Criteria for Water-Resistive Barriers
- 3. ICC-ES AC116 - Acceptance Criteria for Nails and Spikes
- 4. ICC-ES AC148 - Acceptance Criteria For Flexible Flashing Materials

5. ICC-ES AC201 - Acceptance Criteria for Staples
6. ICC-ES AC269 - Acceptance Criteria for Racking Shear Evaluation of Proprietary Sheathing Materials attached to Light-Frame Wall Construction or Code-Complying Sheathing Attached to Light-Framed Walls with Proprietary Fasteners
7. ICC-ES AC310 - Acceptance Criteria for Water-Resistive Membranes Factory-bonded to Wood-based Structural Sheathing, Used as Water-Resistive Barriers
8. ICC-ES ESR-1539 - Power Driven Staples and Nails for Use in Engineered and Non-Engineered Connections
9. ICC-ES NER-272 - Power Driven Staples and Nails for Use in All Types of Building Construction

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of sheathing product specified.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: From ICC-ES, for wood sheathing and seam tape.
- B. Product Certifications: From manufacturer, indicating that sheathing products comply with ICC-ES AC269 and ICC-ES AC310.

CLOSEOUT SUBMITTALS

- A. Warranty: Executed copy of manufacturer special warranties.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Provide wood products from manufacturer certified by SFI, FSC, or comparable sustainable forestry program acceptable to Architect.
- B. Provide wall sheathing products meeting requirements for water-resistive barrier in accordance with ICC-ES AC310.
- C. Provide wall sheathing products meeting requirements of ICC-ES AC269.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturer's written instructions for protection of sheathing products from weather prior to installation.

1.8 WARRANTY

Special Manufacturer's Warranty: Manufacturer's standard form in which sheathing manufacturer agrees to repair or replace sheathing products that demonstrate deterioration or failure under normal use due to manufacturing defects within warranty period specified, when installed according to manufacturer's instructions.

1. Warranty Period for Sheathing Products: 30 years following date of Substantial Completion.

2. Warranty Conditions: Special warranties exclude deterioration or failure due to structural movement resulting in stresses on sheathing products exceeding manufacturer's written specifications, or due to air or moisture infiltration resulting from cladding failure or mechanical damage.

PRODUCTS

1.9 MANUFACTURERS

- A. Basis-of-Design Product: Provide sheathing products manufactured by Huber Engineered Woods LLC, Charlotte NC; Phone: (800) 933-9220; Website: www.zipsystem.com.

1.10 PERFORMANCE REQUIREMENTS

- A. Air-Barrier Assembly Air Leakage: Less than 0.04 cfm/sq. ft. at 1.57 lbf/sq. ft. (0.2 L/s x sq. m at 75 Pa), per ASTM E2375.
- B. Water-Vapor Permeance, Facer: Minimum 12 perms (689 ng/Pa x s x sq. m), ASTM E96/E96M.
- C. Weather Exposure: Manufacturer warranty applies for maximum allowable exposure period of 180 days.

1.11 MATERIALS

- A. Oriented Strand Board: DOC PS 2, made with binder containing no added urea formaldehyde.
- B. Rigid Foam Plastic Insulating Board: Rigid polyisocyanurate foam core complying with ASTM C1289 Type II, Class 2, and ICC-ES AC12, with coated glass fiber facers on both sides, with the following characteristics:
 1. Nominal Density: 2.0 pcf (32 kg/cu. m).
 2. Compressive Strength, ASTM D1621: Not less than 20 psi (150 kPa).
 3. Vapor Permeance, ASTM E96/E96M: Less than 1.0 perm.
 4. Edge Configuration: Square finished.

1.12 COMPOSITE INSULATING WALL SHEATHING

Composite Insulating Wall Sheathing: Oriented-strand-board Exposure 1 sheathing 7/16 inch (11.1 mm) thick, with factory-laminated water-resistive barrier exterior facer, and with rigid foam plastic insulating board laminated to interior face.

1. Basis-of-Design Product: Provide Huber Engineered Woods LLC; ZIP System R Sheathing.
2. Span Rating and Performance Category of Sheathing Layer: Not less than 24/16; 7/16 Performance Category.

Thickness: 1.0".

4. Thermal Resistivity (R Value): 3.6 and 12.6 deg F x h x sq. ft./Btu x in. at 75 deg F ([25] [46] K x m/W at 24 deg C).

5. Edge Profile: Square edge.
6. Exterior Facer: Medium-density, phenolic-impregnated polymer-modified sheet material meeting requirements for ASTM D779 Grade D weather-resistive barrier in accordance with ICC AC38 and AC310, with fastener spacing symbols on exterior facer for 16-inch (406 mm) and 24-inch (610 mm) on center spacing, with the following characteristics
 - a. Water Resistance of Coatings, ASTM D2247: Pass 14 day exposure test.
 - b. Moisture Vapor Transmission, ASTM E96: Not less than 12 perms.
 - c. Water Penetration, ASTM E331: Pass at 2.86 lbf/sq. ft. (137 Pa).
 - d. Wind Driven Rain, TAS-100: Pass.
 - e. Accelerated Weathering, ASTM G154: Pass.

1.13 FASTENERS

- A. Fasteners, General: Size and type complying with manufacturer's written instructions for Project conditions and requirements of authorities having jurisdiction.
 1. Corrosion Resistance: Hot-dip zinc coating, ASTM A153/A 153M or Type 304 stainless steel.
- B. Nails, Brads, and Staples: ICC AC116 and ICC AC201.
- C. Power-Driven Fasteners: ICC-ES-1539 or NER-272.
- D. Wood Screws: ASME B18.6.1.

1.14 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIAL

Self-Adhering Seam and Flashing Tape: Pressure-sensitive, self-adhering, cold-applied, seam tape consisting of polyolefin film with acrylic adhesive, meeting ICC AC148.

1. Basis-of-Design Product: Provide Huber Engineered Woods; ZIP System Tape.
2. Thickness: 0.012 inch (0.3 mm).

EXECUTION

1.15 EXAMINATION

- A. Examine framing spacing and alignment to determine if work is ready to receive sheathing. Proceed with sheathing work once conditions meet requirements.

1.16 SHEATHING INSTALLATION

- A. Install sheathing panels in accordance with manufacturer's written instructions, requirements of applicable Evaluation Reports, and requirements of authorities having jurisdiction.
- B. Air and Moisture Barrier: Coordinate sheathing installation with flashing and joint sealant installation and with adjacent building air and moisture barrier components to provide complete, continuous air- and moisture- barrier.

- C. Do not bridge expansion joints; allow joint spacing equal to spacing of structural supports.
 - D. Install panels with laminated facer to exterior. Stagger end joints of adjacent panel runs.
 - E. Attach sheathing panels securely to substrate with manufacturer-approved fasteners in compliance with the following:
 - 1. ICC-ES ESR-1539 or ICC-NES NER-272 for power-driven fasteners.
- IBC: Table 2304.9.1 Fastening Schedule.
- 3. IRC: Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments."
 - F. Apply seam tape at all panel seams, penetrations, and facer defects or cracks to form continuous weathertight surface. Apply tape according to manufacturer's written instructions and requirements of ICC-ES applicable to tape application.
 - G. Virginia Housing Requirements
 - 1. Pre-installation
 - a. General contractor to hold pre-installation meeting with architect and manufacturer prior to installation. Manufacturer's observation reports to include documentation of meeting.
 - b. Manufacturer's flashing details including windows, doors, joints and penetrations must be maintained on site.
 - c. Store material to meet manufacturer's requirements.
 - 2. Installation
 - a. The integral drainage plane must be preserved. Use manufacturer's approved products including tape, tape gun and roller.
 - b. When weather conditions warrant, follow manufacturer's requirements for inclement weather installation and storage of materials.
 - c. Manufacturer's representative to review the final installation to confirm all requirements are met prior to installation of exterior cladding. Manufacturer's observation reports documenting installation acceptance is required and must be maintained on site.

END OF SECTION

SECTION 062000 - FINISH CARPENTRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Samples for moldings and trim.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20 and grading rules of inspection agencies certified by American Lumber Standards Committee Board of Review.
- B. Softwood Plywood: DOC PS 1.

2.2 INTERIOR STANDING AND RUNNING TRIM

- A. Interior Softwood Lumber Trim: C Select (Choice), eastern white, Idaho white, lodgepole, ponderosa, or sugar pine C Select white woods 1 Common white woods.
 - 1. Maximum Moisture Content: 19 percent.
- B. Wood Moldings: WMMPA WM 4 made to patterns in WMMPA WM 12 from kiln-dried stock.
 - 1. Moldings for Painted Finish: P-Grade eastern white, Idaho white, lodgepole, ponderosa, radiata, or sugar pine.
 - 2. Base: 9/16" x 4-1/4" round edge base
 - 3. Casing: WM 412 11/16" x 3-1/2" round edge casing
 - 4. Quarter round: 11/16" x 11/16" round
 - 5. Stool: 11/16" finger joint bare
 - 6. Pre - Primed.

2.3 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: hot-dip galvanized steel or aluminum.
- B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer.
 - 1. Wood glue shall have a VOC content of 30 g/L or less.
 - 2. Use waterproof resorcinol glue for exterior applications.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Condition interior finish carpentry in installation areas for 24 hours before installing.
- B. Prime and backprime lumber for painted finish exposed on the exterior. Cut to length and prime ends.
- C. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Scribe and cut to fit adjoining work. Refinish and seal cuts.
 - 1. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining exterior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
- D. Install standing and running trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long except where necessary. Stagger joints in adjacent and related trim. Cope at returns and inside corners and miter at outside corners.
- E. Nail siding at each stud. Do not allow nails to penetrate more than one thickness of siding, unless otherwise recommended by siding manufacturer. Seal joints at inside and outside corners and at trim locations.

END OF SECTION 062000

SECTION 066113 - CULTURED MARBLE FABRICATIONS

PART 1 - GENERAL

SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings.

PART 2 - PRODUCTS

CULTURED MARBLE FABRICATIONS

- A. Cultured Marble Vanity Tops: Gel-coated solid fabrications of filled plastic resin complying with ANSI Z124.3, Type 4, with precoated finish, and not less than 1/2 inch thick.
1. Front Style: Rolled edge.
 2. Backsplash: Integral, coved, with rounded top.
 3. End Splash: Applied, with rounded top.
 4. Color: as selected by Architect from manufacturer's standard colors.
 5. HC (ANSI Type A) Units: HC bowl depth.

PART 3 - EXECUTION

INSTALLATION

- A. Install cultured marble products according to manufacturer's written directions. Fasten to substrates with adhesive. Align adjacent surfaces. Seal seams and perimeter with mildew-resistant elastomeric sealant.
- B. Install level and plumb to a tolerance of 1/8 inch in 8 feet.

END OF SECTION 066113

SECTION 072000 - ROOFING INSULATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

Documents affecting the work of this section includes, but not necessarily limited to, the Drawings and general provisions of the Contract, including the General Conditions, Supplemental General Conditions, Special Conditions, and Division 1 of the specifications.

1.02 DESCRIPTION OF WORK:

- A. The extent of thermal insulation work is shown on the plans, by the generic name or by its abbreviation.
- B. Base layer of 2.5-inch ISO insulation shall be installed over the entire roof.
- C. 1/8-inch tapered ISO insulation (.5-inch min) installed over base layer.
- D. 1/4-inch crickets & saddles ISO insulation installed over 1/8-inch tapered
- E. These layers to be mechanically attached to metal deck with manufacturer's fasteners at 16-fasteners per 4x8-ft board.
- F. In areas of concrete over metal deck, these layers shall be attached using Carlisle flexible fast adhesive 4-inch max bead application.

1.03 APPLICATION:

The applications of thermal insulation specified in this section include roof insulation.

1.04 THERMAL CONDUCTIVITY:

The R-values shown are for the thermal resistance specified for each material.

1.05 FIRE AND INSURANCE RATINGS:

The insulation system shall be ASCE 7 accepted for the particular application.

1.06 SUBMITTALS:

Manufacturer's Data Thermal Insulation:

- A. Submit manufacturer's specifications and installation instructions for each type of insulation required. Include data substantiating that materials comply with specified requirements.
- B. Shop drawings to be submitted by Contractor shall accommodate positive drainage. Contractor to field verify existing conditions before submittal of shop drawings to

A/E.

PART 2 - PRODUCTS

2.01 MATERIALS - INSULATION BOARDS:

- A. Polyisocyanurate (Iso board) – Tapered (Provide taper(s) as denoted on plans.)

Polyisocyanurate foam board with reinforced glass fiber mat. Insulation shall be compatible with the type of roofing system used.

1. Polyisocyanurate insulation boards shall have the following properties:

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>SPECIFICATION</u>
K-factor at 75F (BTU/in/ft5/hr./F)	ASTM C518	0.13, min.
R-value at 75F	ASTM C518	5.5/inch, min.
Compressive Strength	ASTM D1621	25 psi., NOMINAL
Dimensional stability (with facer)	ASTM D2126	2% linear change (max.)
Water absorption	ASTM C209	1% by volume (max.)
Water vapor transmission	ASTM C355	1.0 perm-inch, min.
Density	ASTM D1622	2.1 pcf, min.
Flame Spread	ASTM E85	25 or less
Smoke Development	ASTM E-85	450 or less
Direct to steel deck	UL 1256 & FM 4450	Passed Test

Board Size = 4'x8'

Board Thickness = Thicknesses shall be

2½-inch flat

.5-inch min thickness for 1/8-inch tapered

¼ inch tapered for crickets, saddles and any new construction

2. Manufacturers offering products which comply with the above requirements include the following:

- a. Carlisle Syn Tec Incorporated

PART 3 - EXECUTION

3.01 PRODUCT HANDLING:

Protection from Deterioration: Do not allow insulation materials to become wet, soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage and protection during installation. Insulation material will be checked immediately prior to application for moisture content and insulation exhibiting moisture above recommended limits shall not be used.

3.02 INSTALLATION:

- A. The contractor shall verify with the roofing materials manufacturer(s) that the roofing insulation is compatible with the proposed roofing material and roofing system.
- B. Extend insulation as shown on the contract drawings over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.
- C. Insulation shall be spaced a minimum of 1/8" apart to allow for expansion. Joints of parallel courses should be staggered. Gaps greater than 1/4" should be filled with appropriate insulation.
- D. Roofing over metal deck areas: Fasten insulation (new and existing) with approved insulation mechanical fasteners set 2'-0" on center in a grid pattern (16 fasteners per 4' X 8' board). Refer to Section 07720 for a description of appropriate mechanical fasteners for insulation board. Comply with directions of fastener manufacturer.
 - 1) Conduct fastener pull out test: Fasteners shall be tested for pull-out strength by a qualified representative of the fastener manufacturer and as recommended in fastener manufacturer's submittals.
 - 2) Pull-out requirements for metal roof deck shall be 400 pounds
 - 3) Minimum embedment to be per fastener manufacturer and ASCE 7.
 - 4) Fasteners shall penetrate the top rib of metal decks only.
- E. Roofing over concrete deck areas: Roof sections shall have the insulation board surface completely adhered to substrate with Carlisle flexible fast adhesive 4-inch max bead application so as to achieve a UL Class 90 wind uplift rating. Foam adhesive to cover at minimum of 95% of insulation surface area; 4-inch max. ribbon adhesive installation shall be acceptable. Other cold-applied adhesives, hot asphalt, or hot applications shall not be acceptable. Sufficiently clean deck substrate (and prime as necessary with Cav Grip) in accordance with

the insulation, flexible sheet membrane, and cold-applied adhesive manufacturer's recommendations prior to installation of the intended roofing system.

- F. Provide tapered crickets or saddles between drains and corners as required to provide positive drainage (minimum taper shall be 1/4" per ft.). Contractor shall place all crickets and saddles in a manner such that the valley formed shall be at a minimum of 1/8" per foot slope.

END OF SECTION 07200

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and ICC-ES evaluation reports for foam-plastic insulation.
- B. Surface-Burning Characteristics: According to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

PART 2 - PRODUCTS

2.1 INSULATION PRODUCTS

- A. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV with flame-spread and smoke-developed indexes of 75 and 450, respectively.
 - 1. Manufacturers:
 - a. DiversiFoam Products.
 - b. Dow Chemical Company (The).
 - c. Owens Corning.
 - d. Pactiv Building Products.
- B. Mineral-Wool Board Insulation: ASTM C 612, unfaced nominal density of 8 lb/cu. ft. (128 kg/cu. m), with flame-spread and smoke-developed indexes of 0 and 0, respectively.
 - 1. Manufacturers:
 - a. Rockwool Comfortboard.
- C. Glass-Fiber-Blanket Insulation: ASTM C 665, Type I, unfaced with flame-spread and smoke-developed indexes of 25 and 450, respectively. Provide Grade 1 installation in stud wall cavities.
 - 1. Manufacturers:
 - a. CertainTeed Corporation.
 - b. Johns Manville.
 - c. Knauf Insulation.
 - d. Owens Corning.
 - 2. Formaldehyde-free
 - 3. 25% minimum recycled content material
 - 4. Grade I installation.

- D. Mineral-Fiber-Blanket Insulation: ASTM C 665, Type I, unfaced with flame-spread index of 0.
 - 1. Manufacturers:
 - a. Rockwool Comfortbatt.
 - 2. 25% minimum recycled content material
- E. Glass-Fiber Loose-Fill Insulation: ASTM C 764, Type 1, pneumatic application, with flame-spread and smoke-developed indexes of 25 and 450, respectively.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install insulation in areas and in thicknesses indicated or required to produce R-values indicated. Cut and fit tightly around obstructions and fill voids with insulation.
- B. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
- C. Except for loose-fill insulation and insulation that is friction fitted in stud cavities, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- D. Place loose-fill insulation to comply with ASTM C 1015.
 - 1. Comply with the CIMA's Special Report #3, "Standard Practice for Installing Cellulose Insulation."

END OF SECTION 072100

SECTION 074646 - FIBER-CEMENT SIDING

GENERAL

1.1 SECTION INCLUDES

Fiber cement lap siding, panels, shingle, trim, fascia, moulding, and accessories; James Hardie HZ10 Engineered for Climate Siding and Hardie Architectural Panels.

- B. Factory-finished fiber cement lap siding, panels, shingle, trim, fascia, moulding, and accessories; James Hardie HZ10 Engineered for Climate Siding.

1.2 RELATED SECTIONS

Section 06 10 00 - Rough Carpentry.

- B. Section 06 10 00 - Rough Carpentry.
- C. Section 07 21 19 - Foamed-In-Place Insulation.

1.3 REFERENCES

ASTM D3359 - Standard Test Method for Measuring Adhesion by Tape Test, Tool and Tape.

- B. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 degrees C.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Provide detailed drawings of atypical non-standard applications of cementitious siding materials which are outside the scope of the standard details and specifications provided by the manufacturer.

Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

- E. Verification Samples: For each finish product specified, two samples, minimum size 4 by 6 inches (100 by 150 mm), representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

Installer Qualifications: Minimum of 2 years experience with installation of similar products.

Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

1. Finish areas designated by Architect.
2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
3. Remodel mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store siding on edge or lay flat on a smooth level surface. Protect edges and corners from chipping. Store sheets under cover and keep dry prior to installing.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

- A. Product Warranty: Limited, non-pro-rated product warranty.
 1. Hardie Architectural Panels for 30 years.
- B. Finish Warranty: Limited product warranty against manufacturing finish defects.
 1. When used for its intended purpose, properly installed and maintained according to Hardie's published installation instructions, James Hardie's ColorPlus finish with ColorPlus Technology, for a period of 15 years from the date of purchase: will not peel; will not crack; and will not chip. Finish warranty includes the coverage for labor and material.

Workmanship Warranty: Application limited warranty for 2 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: James Hardie Building Products, Inc., which is located at: 231 S. La Salle St. Suite 2000; Chicago, IL 60604; Toll Free Tel: 877-236-7526; Email: [request info \(info@jameshardie.com\)](mailto:info@jameshardie.com); Web: <https://www.jameshardiepros.com> | <https://www.jameshardie.com>

Requests for approval of equal substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 TEXTURED PANELS AND TRIM

Hardie Architectural Panels as manufactured by James Hardie Building Products, Inc. A non-combustible fiber-cement panel.

1. Product Composition: Grade II, Type A, fiber-cement sheets as defined by ASTM C1186. manufactured by the Hatschek process and cured by high pressure steam autoclaving.
2. Intertek Product Listing.
3. Code Compliance:
 - a. International Building Code (IBC):
 - 1) Section 1404.10: 2009, 2012 and 2015.
 - 2) Section 1403.10: 2018 and 2021.
 - b. Wind Design:
 - 1) Manufacturer's readily available design load and exposure category tables are derived from testing in accordance with ASTM E 330.
 - 2) Wind speed design coefficient assumptions per Analytical Method in ASCE 7.
 - 3) Wood Framing Specific Gravity: 0.42 or greater unless otherwise stated.
 - 4) Wood Structural Sheathing Panel Specific Gravity of 0.50 or higher unless otherwise stated.
4. Fire Characteristics:
 - a. Tested in Accordance with ASTM E136: Classified as non-combustible.
 - b. May be used in ASTM E119 fire resistance rated assemblies as listed by Warnock Hersey.
 - c. Class A Material: Per FBC 2017 and 2020, and 2018 IBC Section 803.1.1 Surface Burning Characteristics when tested in accordance with ASTM E84:
 - 1) Flame Spread Index : 0. Smoke Developed Index: 0.
5. Type (WxL): Hardie Architectural Panel - Fine Sand 4 by 8 feet (1219 by 2438 mm).
6. Physical Properties:
 - a. Test Method ASTM C1185: Passed.
 - 1) Dimensional Tolerances:
 - a) Length: Plus or minus 0.5 percent or plus or minus 1/4 inch (6 mm).
 - b) Width: Plus or minus 0.5 percent or plus or minus 1/4 inch (6 mm).
 - c) Thickness: Plus or minus 0.04 inch (1 mm).
 - d) Squareness: Less than 1/32 inches per ft (2.6 mm per m) of length.
 - e) Edge Straightness: Less than 1/32 inches per ft (2.6 mm per m) of length.
 - 2) Density: Less than 83 pounds per sq ft (4 kPa).
 - 3) Water Tightness: No drop formation; Pass.
 - 4) Flexural strength:
 - a) Wet Conditioned, psi: Greater than 1015 psi (7 MPa); Pass.
 - b) Equilibrium Conditioned, psi: Greater than 1450 psi (10 MPa); Pass.
 - 5) Warm Water Resistance, Observations: No structural alteration; Pass

- 6) Heat and Rain Resistance: No structural alteration; Pass.
- 7) Freeze and Thaw Resistance:
 - a) Physical Observations Mass: No structural alteration; Pass
 - b) Loss Percentage: Less than or equal to 3.0 percent; Pass.
 - c) Freeze/Thaw, Percent Strength Retention: Greater than or equal to 80 percent; Pass.
- b. Fire Characteristics:
 - 1) ASTM E84: Surface Burning Characteristics.
 - a) Flame Spread Index (FSI) Smoke: 0.
 - b) Developed Index (SDI): 0.
 - c) Fuel Contributed: 0.
 - d) International Building Code: A.
 - 2) ASTM E136: Non-combustibility: Pass.
- 7. Trim Accessories:

J Trim: Aluminum extrusion to be used as a trim at abutments; soffits, masonry, windows, etc.

 - b. Inside Corner Trim: Aluminum extrusion to be used for inside corners.
 - c. Low-Profile Outside Corner Trim: Aluminum extrusion to be used for outside corners.
 - d. Vertical H Trim: Aluminum extrusion to be used along vertical butt joints. For horizontal panel orientations only.
 - e. Horizontal Z Flashing Trim: Aluminum extrusion to be used along horizontal control joints.
 - f. Base Trim: Aluminum extrusion to be used as a base edge solution.
 - g. Base Outside Corner Trim: To be used as an outside corner connection for Base trim.
 - h. Base Inside Corner Trim: To be used as an inside corner connection for Base trim.
 - i. Base Jointer: To be used to connect Base trims.
 - j. HardieTrim Boards: Fiber cement trim for corners and windows. Can be mounted horizontally or vertically.

2.3 FASTENERS

Wood Framing Fasteners:

- 1. Wood Framing: 4d common corrosion resistant nails.
- 2. Wood Framing: 6d common corrosion resistant nails.
- 3. Wood Framing: 8d box ring common corrosion resistant nails.
- 4. Wood Framing: 0.089 inch (2.2 mm) shank by 0.221 inch (5.6 mm) head by 2 inches (51 mm) corrosion resistant siding nails.
- 5. Wood Framing: 0.093 inch (2.4 mm) shank by 0.222 inch (5.6 mm) head by 2 inches (51 mm) corrosion resistant siding nails.
- 6. Wood Framing: 0.093 inch (2.4 mm) shank by 0.222 inch (5.6 mm) head by 2-1/2 inches (64 mm) corrosion resistant siding nails.
- 7. Wood Framing: 0.091 inch (2.3 mm) shank by 0.221 inch (5.6 mm) head by 1-1/2 inches (38 mm) corrosion resistant siding nails.
- 8. Wood Framing: 0.091 inch (2.3 mm) shank by 0.225 inch (5.7 mm) head by 1-1/2 inches (38 mm) corrosion resistant siding nails.
- 9. Wood Framing: 0.121 inch (3 mm) shank by 0.371 inch (9.4 mm) head by 1-1/4 inches (32 mm) corrosion resistant roofing nails.
- 10. Wood Framing: No. 11 gauge 1-1/4 inches (32 mm) corrosion resistant roofing

- nails.
- 11. Wood Framing: No. 11 gauge 1-1/2 inches (38 mm) corrosion resistant roofing nails.
- 12. Wood Framing: No. 11 gauge 1-3/4 inches (44 mm) corrosion resistant roofing nails.
- 13. Wood Framing: 16 gauge 1-1/2 inches (38 mm) stainless finish nails
- B. Masonry Walls:
 - 1. Masonry Walls: Aerico Stud Nail, ET&F ASM No.-144-125, 0.14 inch (3.6 mm) shank by 0.30 inch (7.6 mm) head by 2 inches (51 mm) long corrosion resistant nails.

FINISHES

Factory Finish: Refer to Exterior Finish Schedule.

Product: ColorPlus Technology by James Hardie.

- 2. Definition: Factory applied finish; defined as a finish applied in the same facility and company that manufactures the siding substrate.
- 3. Process:
 - a. Factory applied finish by fiber cement manufacturer in a controlled environment within the fiber cement manufacturer's own facility utilizing a multi-coat, heat cured finish within one manufacturing process.
 - b. Each finish color must have documented color match to delta E of 0.5 or better between product lines, manufacturing lots or production runs as measured by photo spectrometer and verified by third party.
- 4. Protection: Factory applied finish protection such as plastic laminate that is removed once siding is installed
- 5. Accessories: Complete finishing system includes pre-packaged touch-up kit provided by fiber cement manufacturer. Provide quantities as recommended by manufacturer.

Factory Finish Color for Siding Colors:

Color as selected by Architect.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If framing preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

Nominal 2 inch by 4 inch (51 mm by 102 mm) wood framing selected for minimal shrinkage and complying with local building codes, including the use of water-resistive barriers or vapor barriers where required. Minimum 1-1/2 inches (38 mm) face and straight, true, of uniform dimensions and properly aligned.

- 1. Install water-resistive barriers and claddings to dry surfaces.
- 2. Repair any punctures or tears in the water-resistive barrier prior to the installation of the siding.

3. Protect siding from other trades.

PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Install a water-resistive barrier is required in accordance with local building code requirements.
- D. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements.

INSTALLATION - HARDIE ARCHITECTURAL PANELS

- A. Install materials in strict accordance with manufacturer's installation instructions.
- B. Install over braced wood. See General Fastening Requirements. Irregularities in framing and sheathing can mirror through the finished application. Correct irregularities before installing siding.
- C. A water-resistive barrier (WRB) is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap Weather Barrier, a non-woven non-perforated housewrap, which complies with building code requirements.
- D. When installing horizontally, a WRB with min. 90 percent drainage efficiency shall be used.
- E. Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6 inches (152 mm). in the first 10 ft (3.048 mm).
- F. Do not use Hardie Architectural Panels in Fascia or Trim applications.
- G. Do not install that product remains in contact with standing water.
- H. Installed on flat vertical wall applications only.
- I. For larger projects where the span of the wall is significant in length, the designer and/or architect should take into consideration the coefficient of thermal expansion and moisture movement of the product in their design. These values can be found in the Technical Bulletin "Expansion Characteristics of James Hardie Siding Products" at www.jameshardie.com.
- J. James Hardie Building Products provides installation /wind load information for buildings with a maximum mean roof height of 85 feet (25.9 m). For information on installations above 60 feet (18.288 m), please contact JH technical support.

- K. Minimum standard panel design size is 12 x 16 inches (305 x 406 mm). Panels may be notched and cut to size to fit between windows, doors, corners, etc.

FINISHING

Finish unprimed siding with a minimum one coat high quality, alkali resistant primer and one coat of either, 100 percent acrylic or latex or oil based, exterior grade topcoats or two coats high quality alkali resistant 100 percent acrylic or latex, exterior grade topcoat within 90 days of installation. Follow paint manufacturer's written product recommendation and written application instructions.

- B. Finish factory primed siding with a minimum of one coat of high quality 100 percent acrylic or latex or oil based exterior grade paint within 180 days of installation. Follow paint manufacturer's written product recommendation and written application instructions.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 075423 - TPO THERMOPLASTIC SINGLE-PLY ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. TPO Thermoplastic Single-Ply Roofing.
- B. Membrane Flashings.
- C. Metal Flashings.
- D. Roof Insulation.

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 03 52 16 - Lightweight Cellular Insulating Concrete.
- C. Section 06 10 00 - Rough Carpentry.
- D. Section 07 54 00 - Thermoplastic Membrane Roofing.
- E. Section 07 62 00 - Sheet Metal Flashing and Trim.
- F. Section 07 70 00 - Roof and Wall Specialties and Accessories.
- G. Section 22 30 00 - Plumbing Equipment.

1.3 REFERENCES

- A. American Society of Civil Engineers (ASCE) - ASCE 7 - Minimum Design Loads for Buildings and Other Structures, Current Revision.
- B. ANSI/SPRI WD-1 "Wind Design Standard for Roofing Assemblies".
- C. ASTM International (ASTM):
 - 1. ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
 - 2. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
 - 3. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 - 4. ASTM D 312 - Standard Specification for Asphalt Used in Roofing.
 - 5. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
 - 6. ASTM D 1079 - Standard Terminology Relating to Roofing, Waterproofing,

- and Bituminous Materials.
- 7. ASTM D 2178 - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
- 8. ASTM D 4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
- 9. ASTM D 4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
- 10. ASTM D 4869 - Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing.
- 11. ASTM D 6878 - Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing.
- 12. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
- D. International Code Council (ICC):
 - 1. International Building Code (IBC).
- E. National Roofing Contractors Association (NRCA) - Low Slope Roofing and Waterproofing Manual, Current Edition.
- F. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- G. Underwriters Laboratories (UL):
 - 1. TGFU R1306 - "Roofing Systems and Materials Guide".
 - 2. UL-790 - Standard Test Method for Fire Tests of Roof Coverings.
- H. ANSI/ASHRAE/IESNA Standard 9.1 (2007): Energy Standard for Buildings Except Low-Rise Residential Buildings.

1.4 DESIGN CRITERIA

- A. Wind Uplift Performance:
 - 1. Roof system shall be installed to withstand wind uplift forces as calculated using the current revision of ASCE-7-16.
- B. Fire Resistance Performance:
 - 1. Roof system will achieve a UL Class A rating when tested in accordance with UL-790.
- C. Thermal Performance: Roof system will achieve an average R value not less than 35.
- D. Building Codes:
 - 1. Roof system will meet the requirements of all federal, state and local code bodies having jurisdiction.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.

- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Detail Drawings:
 - 1. Submit approved plan, section, elevation or isometric drawings which detail the appropriate methods for all flashing conditions found on the project.
 - 2. Coordinate approved drawings with locations found on the Contract Drawings.
- D. Selection Samples: For each finish product specified, two complete sets of chips representing manufacturer's full range of available colors, membranes, and thicknesses.
- E. Verification Samples: For each finish product specified, two samples, minimum size 4 inches (100 mm) square representing actual product, color, and patterns.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of forty (40) years experience in the manufacturing of single ply membranes.
- B. Installer Qualifications:
 - 1. All products listed in this section are to be installed by a single installer with a minimum of twenty (20) years demonstrated experience in installing products of the same type and scope as specified.
 - 2. Installer must be capable of extending the Manufacturer's Labor and Materials guarantee.
 - 3. Installer must be capable of extending the Manufacturer's No Dollar Limit guarantee.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation, installation techniques and workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.
- C. Safety Data Sheets (SDS) must be on location at all times during the transportation, storage and application of materials.
- D. When loading materials onto the roof, the Carlisle Authorized Roofing Applicator

must comply with the requirements of the building owner to prevent overloading and possible disturbance to the building structure.

1.8 PROJECT CONDITIONS

- A. Proceed with roofing work only when weather conditions are in compliance with the manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.
- B. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.
- C. Provide protection, such as 3/4 inch thick plywood, for all roof areas exposed to traffic during construction. Plywood must be smooth and free of fasteners and splinters.
- D. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil and grease.
- E. New roofing shall be complete and weather tight at the end of the work day.
- F. Contaminants such as grease, fats and oils shall not be allowed to come in direct contact with the roofing membrane.

1.9 WARRANTY

- A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's Total System warranty, outlining its terms, conditions, and exclusions from coverage.
 - 1. Duration: 20 Years.
- B. Special Warranty: Warranty shall include all edge metal, insulation, cover boards, fasteners and adhesives used in the Sure Weld TPO Roofing System.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of Design: Carlisle SynTec

2.2 SCOPE / APPLICATION

- A. Roof System: Provide a waterproof roof system, capable of withstanding uplift forces as specified in the Design Criteria article of this section.
 - 1. Membrane Attachment: Fully Adhered in Cav Grip III
- B. Base Flashing: Provide a waterproof, fully adhered base flashing system at all penetrations, plane transitions and terminations.

- C. Insulation: Provide a roof insulation system with an adhered cover board beneath the finish membrane.

2.3 INSULATION

- A. Polyisocyanurate InsulBase: Rigid board with glass fiber reinforced facers (GRF) on both sides, meeting or exceeding the requirements of ASTM C 1289, Type II, Class 1.
 - 1. Carlisle Tapered InsulBase Insulation
 - 2. Average R-Value: 35
 - 3. Compressive Strength: Grade 2, 20 psi (138 kPa).
- B. Water-resistant and silicone treated gypsum panel with embedded fiberglass facer on both sides, and pre-primed on one side. DensDeck® Prime Roof Boards with EONIC™ Technology.
 - 1. Board Thickness: ½ inch

2.4 INSULATION ADHESIVE

- A. Flexible FAST Adhesive: Extruded bead or splatter applied, two-component polyurethane, low-rise expanding foam adhesive used for attaching approved insulations to compatible substrates.

2.5 THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE

- A. Sure-Weld TPO with APEEL Protective Membrane
 - 1. Color: White.
 - 2. Membrane Thickness: 60 mil
 - 3. Sheet Dimensions:
 - a. Width: 12 feet (3.66 m) maximum.
 - b. Length: 100 feet (30.5 m) maximum.
 - 4. Factory applied protective film

2.6 BONDING ADHESIVE

- A. Carlisle Cav Grip III

2.7 FLASHING ACCESSORIES

- A. Inside Corners: Pre-molded corner flashing for inside corners. 60 mil thickness. Color to match membrane. Special colors require custom fabrication process.
- B. Outside Corners: Injection molded corner used for flashing outside corners. 60 mil thickness. Color to match membrane. Special colors require custom fabrication process.
- C. TPO T-Joint Covers: Injection molded 60 mil thick TPO formed into a 4.5 inch (114mm) diameter circle used to seal step-offs at splice intersections. Color to match membrane. Special colors require custom fabrication process.
- D. Sure-Weld Heat Weldable Walkway Rolls: Superior tear, puncture and weather resistance and designed to protect Sure-Weld membrane in those areas exposed to

repetitive foot traffic or other hazards. Walkway material may be heat welded to Sure-Weld membrane using an automated heat welder or handheld heat welder. Walkway Rolls are 34 inches (864 mm) wide by 50 feet (15.2 m) long and are nominal 180 mils thick. Color - White, gray and tan.

- E. Non-Reinforced Flashing: Non-reinforced TPO flashing is a 60-mil thick non-reinforced TPO based membrane used for detail work where the use of pre-molded or pre-fabricated accessories are not feasible. Color - White, gray and tan. Special colors require lead time and 5,000 square foot minimum.

2.8 CLEANERS, PRIMERS, ADHESIVES AND SEALANTS

- A. Flexible FAST Dual Tank Adhesive: A bead applied, two-component, polyurethane construction grade, low-rise expanding adhesive used to securely bond FleeceBACK membranes to a variety of substrates.
- B. CAV-GRIP III Low-VOC Aerosol Contact Adhesive/Primer: a low-VOC, methylene chloride-free adhesive that can be used for a variety of applications including: Bonding Sure-Weld membrane to various surfaces, priming unexposed asphalt prior to applying 725 TR Vapor Barrier, and for adhering Sure-Weld FleeceBACK and Sure-Weld TPO membrane to vertical walls. Coverage rate is approximately 2,000-2,500 sq. ft. per 40 lb cylinder and 4,000-5,000 sq. ft. per 85 lb cylinder as a primer, in a single-sided application; 750 sq. ft. per 40 lb cylinder and 1,500 sq. ft. per 85 lb cylinder as an adhesive for vertical walls, in a double-sided application; 1,000 sq. ft. per 40 lb cylinder and 2,000 sq. ft. per 85 lb cylinder as an adhesive, horizontally, for the field of the roof, in a double-sided application.
- C. Cut Edge Sealant: A medium solids content, free flowing polymeric material designed for sealing cut edges (exposed fabric) of Sure-Weld reinforced membrane.
- D. Water Cut-Off Mastic: A one-component, low viscosity, self wetting, Butyl blend mastic used as a compression sealing agent between membrane and applicable substrates.
- E. TPO Primer: Solvent-based product designed to prepare TPO membrane for improved adhesion to TPO surfaces prior to the application of pressure-sensitive products and sealant pockets.
- F. Universal Single-Ply Sealant: A 100 percent solids, solvent free, VOC free, one-part polyether sealant that provides a weather tight seal to a variety of building materials. It is used for general caulking such as above termination bars and metal counter flashings and at scupper details.. Available in white only.

2.9 FASTENING COMPONENTS

- A. Insulation Fastening Plates: A nominal 3 inch (76mm) diameter metal plate used for insulation attachment in conjunction with the appropriate Carlisle Fastener.

2.10 Edge Metal

- A. Carlisle Securedge 200 Coping:

1. Decorative metal fascia with continuous extruded aluminum bar. To terminate adhered , ballasted or mechanically attached single-ply roofing at perimeter. The system shall be watertight with no exposed fasteners. Model(s) shall be for adhered or mechanically attached as indicated in drawings.
2. Provide a pre-manufactured 24 gauge Galvalume® or G-90 galvanized steel perimeter edge metal system as provided by the primary roof system manufacturer or equivalent manufacturer to comply with ANSI/SPRI/FM435 ES-1 and the 2018 Virginia Construction Code. Shop fabricated perimeter edge metal assemblies will not be accepted.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Do not commence work until all other work trades have completed jobs that require them to traverse the deck on foot or with equipment.

3.3 INSULATION - SYSTEM DESIGN

- A. Base Layer:
 1. Type: Tapered InsulBase Polyiso
 2. Thickness: Minimum start needed to produce average R-35
 3. Attachment Method: Flex FAST 100 Low Rise Foam

3.4 INSULATION PLACEMENT

- A. Install insulation or membrane underlayment in multiple layers over the substrate with boards butted tightly together with no joints or gaps greater than 1/4 inch (6 mm). Stagger joints both horizontally and vertically if multiple layers are provided.
- B. Adhere all layers of insulation to the substrate with Carlisle Flexible FAST adhesive at a rate to achieve required uplift resistance per ASCE 7-16.
- C. Do not install wet, damaged or warped insulation boards.
- D. Stagger joints in one direction unless joints are to be taped. Install insulation boards snug. Gaps between board joints shall not exceed 1/4 inch (6 mm). Fill all gaps in excess of 1/4 inch (6 mm) with same insulation material.

- E. Wood nailers must be at least 3 1/2 inches (89 mm) wide or 1 inch (25 mm) wider than adjacent metal flange. Thickness must equal that of insulation but not less than 1 inch (25 mm) thickness.
- F. Miter and fill the edges of the insulation boards at ridges, valleys and other changes in plane to prevent open joints or irregular surfaces. Avoid breaking or crushing of the insulation at the corners.
- G. Do not install any more insulation than will be completely waterproofed each day.

3.5 INSULATION ATTACHMENT

- A. Adhere Carlisle Insulbase Polyiso with Flex FAST Adhesive at a rate to resist necessary wind uplift requirements as calculated by ASCE 7-16. If a different product is approved, additional testing will be necessary. This is a unique two-part urethane adhesive formulation. Install additional layers of insulation sufficient to comply with necessary wind uplift rating.
- B. Adhere 1/2" Dens Deck Prime (maximum 4 foot x 4 foot boards) in Flexible FAST Adhesive. Press each board firmly into place after adhesive develops strings when touched, typically 1-1/2 to 2 minutes after adhesive was applied, and roll with a weighted roller. Add temporary weight and use relief cuts to ensure boards are well adhered.

3.6 MEMBRANE PLACEMENT AND ATTACHMENT (Sure-Weld TPO Fully Adhered)

- A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.
- B. Shingle joints on sloped substrate in direction of drainage.
- C. Fully Adhered Application: Apply Cav Grip III adhesive to substrate and back side of membrane. Fully embed membrane in adhesive except in areas directly over or within 3 inches (75 mm) of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.
- D. Around roof penetrations, seal flanges and flashings with flexible flashing.
- E. Coordinate installation of roof drains and sumps and related flashings.
- F. Position adjoining sheets to allow a minimum overlap of 2 inches.
- G. Hot-air weld the Sure-Weld membrane sheets using the Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's hot air welding procedures. Carlisle recommends a test weld sample be made from a piece of scrap TPO to eliminate the need to remove a section from a completed seam. At all splice intersections, roll the seam with a silicone roller to ensure a continuous hot air welded seam.
- H. Continue to install adjoining membrane sheets in the same manner, overlapping edges a minimum of 2 inches and complete the bonding procedures as stated previously.

3.7 SEAM WELDING

- A. Hot-air weld membrane using an Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's current guidelines. At all splice intersections, roll the seam with a silicone roller to ensure a continuous hot air welded seam.
- B. When utilizing membrane greater than 45-mil thickness, overlay all splice intersections with Sure-Weld T-Joint Cover.
- C. Probe all seams once the hot air welds have thoroughly cooled (approximately 30 minutes).
- D. Repair all seam deficiencies the same day they are discovered.
- E. Apply Cut Edge Sealant on all cut edges of reinforced membrane (where the scrim reinforcement is exposed) after seam probing is complete. Cut Edge Sealant is not required on vertical splices.

3.8 SEAMS UNDER SOLAR TRAYS

- A. Strip in all seams that fall underneath solar trays with 6" Carlisle Sure White Pressure Sensitive Cover Strip.

3.9 MEMBRANE PROTECTION UNDER SOLAR TRAYS

- A. Install TPO walkpads under all areas to receive solar trays prior to solar installation.

3.10 FLASHING

- A. Flashing of parapets, curbs, expansion joints and other parts of the roof must be performed using Sure-Weld reinforced membrane or prefabricated accessories. Sure-Weld non-reinforced membrane may be used for flashing pipe penetrations, Sealant Pockets, and scuppers, as well as inside and outside corners, when the use of pre-molded or prefabricated accessories is not feasible.
- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.11 WALKWAYS

- A. Install walkways at all traffic concentration points (such as roof hatches, access doors, rooftop ladders, etc.) and all locations as identified on the Contract Drawings.
- B. Hot-air weld walkway pads to the membrane in accordance with the manufacturer's current application guidelines.

3.12 DAILY SEALS

- A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.

- B. Complete an acceptable membrane seal in accordance with the manufacturer's requirements.

3.13 CLEAN UP

- A. Perform daily clean-up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.
- B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

3.14 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 076000 - FLASHING AND SHEET METAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Documents affecting the work of this section includes, but not necessarily limited to, the Drawings and general provisions of the Contract, including the General Conditions, Supplemental General Conditions, Special Conditions, and Division 1 of the specifications.

1.02 DESCRIPTION OF WORK

- A. The extent of each type of flashing and sheet metal work is indicated on the drawings and by provisions of this section.
- B. The metal to be supplied by roofing manufacturer and included in the total roof system warranty.
- C. The types of work specified in this section include the following:
 - 1. New metal flashing to replace any existing flashing damaged by contractor.
 - 2. Roof edge metal & wall caps to be ES-1.

1.03 QUALITY ASSURANCE

- A. SMACNA: Architectural Sheet Metal Manual, current edition.
- B. Copper and Common Sense: Revere Copper Products, Inc. 1982

1.04 SUBMITTALS

- A. Product Data: Submit Manufacturer's product specifications, installation instructions, and general recommendations for each specified sheet material and fabricated product.
- B. Samples: Submit two (2) eight inch (8") square samples of specified sheet materials to be exposed as finished surfaces.
- C. Shop Drawings: Submit shop drawings showing layout, joining, profiles, and anchorages of fabricated work; layouts at 1/4" scale, details at 3" scale.

1.05 JOB CONDITIONS

Coordinate work of this section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of the work and protection of materials and finishes.

PART 2 - PRODUCTS

2.01 FLASHING AND SHEET METAL MATERIALS

A. Materials:

1. Roof Edge metal: SecurEdge™ One Roof Edge System
2. .040 aluminum with Kynar finish.
3. Roof wall caps : Carlisle's SecurEdge 300 Parapet Wall Coping
4. Roof edge metal & wall caps to be supplied by the Carlisle & included in the total system warranty.
5. Color shall be selected from manufacturer's standard colors; non-metallic.

B. Miscellaneous Materials and Accessories:

1. Fasteners: Same metal as flashing/sheet metal or other noncorrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.
2. Mastic Sealant: One-part Polyurethane (see Division 7 - Section 07920 - Sealants).
3. Metal Accessories: Cleats shall be the same material and thickness as sheet being anchored, 2 inches wide.
1. Wall caps and roof edges are to have continuous metal cleats.
5. Wood Blocking: Provide new wood blocking as required in accordance with Section 06100 "Rough Carpentry" and Section 07720 "Fasteners".
6. Bituminous Coating: Solvent type bituminous material nominally free of sulphur, compounded for 15-mil dry film thickness per coat.

2.02 FABRICATED UNITS

- #### A. General Metal Fabrication: Shop-fabricate work to greatest extent possible. Comply with details indicated, and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices. Fabricate for waterproof and weather-resistant performance; with expansion provisions for running work sufficient to permanently prevent leakage, damage, or deterioration of the work. Form work to fit substrates, comply with material manufacturer instructions and recommendations. Form exposed sheet metal work without excessive oil-canning, buckling and tool marks, true to line levels as indicated, and with exposed edges folded back to form hems.

- #### B. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams.

- C. Separations: Provide for separation of metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.

PART 3 - EXECUTION

3.01 INSTALLATION REQUIREMENTS

- A. General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual". Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints and seams which will be permanently watertight and weatherproof.
- B. Exposed Edges: Except where shown otherwise on the plans, or where it may be necessary to form a drip, the exposed edges of all flashings shall be doubled 1/2" in such manner as to conceal the folds from view.
- C. Separate dissimilar metals from each other by painting each metal surface in the area of contact with a heavy application of bituminous coating, or by other permanent separation as recommended by the manufacturer of the dissimilar metals.
- D. Fabricate and install work with lines and corners of exposed units true and accurate. Form exposed faces flat and free of buckles, excessive waves, and avoidable tool marks, considering the temper and reflectivity of the metal. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant. Fold back the sheet metal to form a hem on the concealed side of exposed edges.
- E. Drip edge shall be used where appropriate, i.e. at perimeter to divert drainage from vertical surfaces.
- F. No face nailing will be allowed without approval of the A/E.

3.02 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, including new and existing to remain, removing substances which might cause corrosion of metal, deterioration of finishes, or visual irregularities. Solder new metal to existing as prescribed by the manufacturer.
- B. Protection: Installer shall advise Contractor of required procedures for surveillance and protection of flashings and sheet metal work during construction, to ensure that work will be without damage or deterioration, other than natural weathering, at time of substantial completion (Owner's Acceptance).

END OF SECTION 07600

SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings, and color Samples.
- B. Warranties: Provide manufacturer's standard written warranty, signed by manufacturer agreeing to promptly repair or replace roof specialties that show evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required.
- B. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), alloy and temper as recommended by manufacturer for use and finish indicated.
- C. Aluminum Finish: Kynar 500 or Hylar 5000.
- D. Felt Underlayment: ASTM D 226, Type II (No. 30), asphalt-saturated organic felts.
- E. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements.
 - 1. Fasteners for Aluminum: Aluminum or Series 300 stainless steel.
- F. Butyl Sealant: ASTM C 1311, solvent-release butyl rubber sealant.
- G. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.2 ROOF SPECIALTIES

- A. Gutters and Downspouts:
 - 1. Manufacturers:
 - a. Architectural Products Company.
 - b. ATAS International, Inc.
 - c. Berger Building Products, Inc.
 - d. Hickman Company, W. P.
 - e. Metal-Era, Inc.
 - f. Metal-Fab Manufacturing, LLC.

SECTION 077233 - ROOF HATCHES

PART 1 GENERAL

1.01 SUMMARY

Metal roof hatches with integral curbs.

1.02 SYSTEM DESCRIPTION

The roof hatches shall have a clear opening as shown on the drawings, and shall consist of an insulated cover and frame. Material shall be G-90 galvanized steel and have a factory applied coat of primer. Corners shall be fully welded and ground smooth. A gasket between cover and frame shall create a weather tight seal.

1.03 DELIVERY, STORAGE AND HANDLING

- A. Examine units upon arrival at jobsite. Notify the carrier and manufacturer of any damage immediately.
- B. Store units under roof, if possible until installation; or, if stored outside, store under a tarp or suitable cover.

1.04 WARRANTY

The unit carries a limited warranty of 5 years against defective material and workmanship, covering parts only, no labor or freight. Defective parts, if deemed so by the manufacturer, will be replaced at no charge, freight excluded, upon inspection at manufacturer's plant which warrants same.

1.05 MAINTENANCE

- A. Under normal usage, the hatches shall require no preventive maintenance.
- B. No "Spare Parts" shall be required.

PART 2 PRODUCTS

2.01 MANUFACTURER

Basis-of-Design Manufacturer: Precision Ladders, LLC, P. O. Box 2279; Morristown, TN 37816-2279; Toll Free Tel: 800-225-7814; Tel: 423-586-2265; Email: info@PrecisionLadders.com; Web: www.PrecisionLadders.com

2.02 MATERIALS

A. PERFORMANCE CHARACTERISTICS

1. Cover shall be reinforced to support a minimum live load of 40 psf (195kg/m²) with a maximum deflection of .67% of the span and a 20 psf (97 kg/m²) wind uplift for galvanized steel (Model PH-G) and aluminum (Model PH-A) roof hatches.
2. Operation of the cover shall be smooth and easy with controlled operation throughout the entire arc of opening and closing.
3. Operation of the cover shall not be affected by temperature.
4. Entire hatch shall be weather tight with fully welded corner joints on cover and curb.

B. CURB

1. Formed from 14 gauge galvanized steel of lock forming quality per ASTM A-525 with G90 coating.
2. Sheathed with 1-1/2" of rigid fiber board insulation.
3. Height of 12" unless indicated otherwise on drawings.
4. 4" integral flange for securing to roof.
5. Hinges connecting curb to door shall be 1/8", 2 piece formed steel with 3/8" pivot pin.
6. Extruded rubber gasket within a 20 gauge extruded aluminum track shall be securely attached to the frame to make the unit weathertight.

C. COVER

1. Formed from 14 gauge galvanized steel of lockforming quality per ASTM A-525 with G90 coating.
2. Liner shall be 22 gauge galvanized steel with G90 coating.
3. Insulation between cover and liner to be 1-1/2" thick U.L. plain fiberglass 0.75# density.
4. Lid shall be reinforced as required with 11 ga. steel channel.
5. A one point cab lock is to be provided with a built-in inside handle on units with a length of 4' 6" or less. On units of greater length, a 2 point slam lock will be used.
6. Exterior of cover shall be devoid of hardware with the exception of the outside handle.
7. Outside handle shall be vinyl coated, steel T-handle.
8. Automatic hold-open device shall be formed from 3/16" steel flat bar and 1/2" diameter steel round stock with a vinyl grip.
9. Padlock provisions provided on both interior and exterior of unit.
10. Extruded rubber gasket shall be securely attached to the liner, thus providing a weather-tight seal.

D. PRESSURE CONTROL

Opening/closing assistance/resistance shall be provided with spring-loaded pressure intensifiers consisting of a telescoping tube; the top(outer) tube shall be 1 5/16", bottom (inner) tube shall be 1 1/2". Tubes shall be cadmium plated and chromate-sealed.

E. HARDWARE

Corrosion resistant hardware and fasteners is standard.

F. MANUFACTURED UNITS

The roof hatch is a Model PH-G(for galvanized steel) or PH-A (for aluminum) followed by the opening size in feet and inches. PH-G 2'6" x 6'0"

G. OPTIONAL ACCESSORIES

1. Precision Safety Access Handrail, mounted to outside corner of hatch curb, to provide a fixed hand hold assist when entering or exiting the hatch.

2. Precision Extend-A-Rail, to be mounted to hatch access ladder, to provide a retractable hand hold assist when entering or exiting the hatch.

3. Precision Aluminum Guard Rail System with self-closing gate, mounted to exterior of hatch, to protect the roof opening.

H. FABRICATION

The hatch is completely fabricated ready for installation before shipment to the site.

I. FINISH

Red oxide primer.

J. SOURCE QUALITY CONTROL

1. All products tested in factory for proper operation before shipment.

PART 3 EXECUTION

3.01 EXAMINATION

Examine rough opening in roof for opening size and squareness.

3.02 INSTALLATION

Install per the manufacturer's installation instructions.

3.03 FIELD QUALITY CONTROL

The manufacturer has representatives in all areas of the United States and Canada. For the name of the closest representative, call 800-225-7814 or visit the website: www.PrecisionLadders.com.

END OF SECTION

- g. MM Systems Corporation.
 - h. National Sheet Metal Systems, Inc.
 - i. Perimeter Systems; a division of Southern Aluminum Finishing Company, Inc.
 - 2. Gutters: Manufactured in uniform section lengths, with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch (25 mm) above front edge. Furnish expansion joints, and expansion-joint covers.
 - a. Gutter Style: Rectangular.
 - b. Aluminum: 0.032 inch (0.81 mm) thick.
 - c. Gutter Supports: Gutter brackets with finish matching the gutters.
 - 3. Downspouts: Plain rectangular with mitered elbows. Furnish wall brackets of same material and finish as downspouts, with anchors.
 - a. Formed Aluminum: 0.032 inch (0.81 mm) thick.
- B. Reglets: Manufactured units formed to provide secure interlocking of separate reglet and counterflashing pieces. Provide reglets with slotted holes for fastening to substrate, with neoprene or other suitable weatherproofing washers, and with channel for sealant at top edge.
 - 1. Formed Aluminum: 0.050 inch (1.27 mm) thick.
- C. Counterflashings: Manufactured units of heights to overlap top edges of base flashings by 4 inches (100 mm) designed to snap into reglets or through-wall-flashing receiver and compress against base flashings with joints lapped.
 - 1. Formed Aluminum: 0.032 inch (0.81 mm) thick.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement.
- B. Coat back side of aluminum roof specialties with bituminous coating where they will contact wood, ferrous metal, or cementitious construction.
- C. Separate dissimilar metals with a bituminous coating or polymer-modified, bituminous sheet underlayment.
- D. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.
- E. Space movement joints at a maximum of 12 feet (3.6 m) with no joints within 18 inches (450 mm) of corners or intersections unless indicated.

- F. Fastener Sizes: Use fasteners of sizes that will penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- G. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1-inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 60 inches (1500 mm) o.c.
- H. Reglets: Install reglets to receive flashings where flashing without embedded reglets is indicated on Drawings. Install at height so that inserted counterflashings overlap 4 inches (100 mm) over top edge of base flashings.

END OF SECTION 077100

SECTION 078413 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Installer certificates signed by Installer certifying that products have been installed in compliance with requirements.

PART 2 - PRODUCTS

2.1 PENETRATION FIRESTOPPING

- A. Manufacturers:
 - 1. A/D Fire Protection Systems Inc.
 - 2. Grace Construction Products.
 - 3. Hilti, Inc.
 - 4. Johns Manville.
 - 5. NUCO Inc.
 - 6. Passive Fire Protection Partners.
 - 7. 3M Fire Protection Products.
 - 8. Tremco, Inc.; Tremco Fire Protection Systems Group.
 - 9. USG Corporation.
- B. Provide penetration firestopping materials that are compatible with one another, substrates, and penetrating items if any.
- C. Penetrations in Fire-Resistance-Rated Walls and Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.
 - 1. F-Rating at Fire-Resistance-Rated Walls: Not less than that of construction penetrated.
 - 2. F-Rating at Horizontal Assemblies: At least 1 hour, but not less than that of construction penetrated.
 - 3. T-Rating at Horizontal Assemblies: At least 1 hour, but not less than the fire-resistance rating of construction penetrated except for penetrations within the cavity of a wall.
- D. Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.
- E. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those

components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Include the following information on labels:
 - 1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
 - 2. Designation of applicable testing and inspecting agency.
 - 3. Manufacturer's name.
 - 4. Installer's name.
- C. Owner will engage a qualified testing agency to perform tests and inspections.

3.2 FIELD QUALITY CONTROL

- A. Inspecting Agency: Owner reserves the right to engage and independent inspecting agency to inspect through-penetration firestops. Independent inspecting agency shall comply with ASTM E 2174 requirements including those related to qualifications, conducting inspections, and preparing test reports.
- B. Where deficiencies are found, repair or replace through-penetration firestop systems so they comply with requirements.
- C. Proceed with enclosing through-penetration firestop systems with other construction only after inspection reports are issued and firestop installation comply with requirements.

END OF SECTION 078413

SECTION 079201 - ROOF SEALANTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions, Special Conditions and Division 1 Specification Sections, apply to this section.

1.02 DESCRIPTION OF WORK

- A. Sealant is to provide a positive barrier against penetration of air and moisture at joints between items where sealant is essential to continue integrity of the barrier.
- B. Sealant installation shall be performed in strict accordance with the provisions of this Section.

1.03 SUBMITTALS

- A. Product Data: Submit descriptive literature and recommended instructions for each type sealant specified.
- B. Samples: Submit samples of the following:
 - 1. One cartridge or one pint of each type of sealant required.
 - 2. Color samples.
 - 3. One lineal foot (minimum) of each type of backup material.

1.04 PRODUCT DELIVERY, HANDLING AND STORAGE

- A. Delivery: Deliver caulking, sealants and related accessories to the job site in factory sealed, unopened containers bearing manufacturer's name and product designation.
- B. Storage:
 - 1. Store all caulking materials and equipment under conditions recommended by its manufacturer.
 - 2. Do not use materials stored for a period of time exceeding the maximum recommended shelf-life of the material.
- C. Product Handling: Follow manufacturer's recommendations for handling products containing toxic materials. Keep flammable material away from heat, sparks and open flame. Use recommended solvents and cleaning agents for cleaning tools, equipment and skin.

1.05 JOB CONDITIONS

- A. Existing Conditions:
 - 1. When extreme hot or cold weather conditions occur, or are expected to occur, which might detrimentally affect the work of this Section, employ techniques to guard against such affects.
 - 2. Unless adequate protection is provided, do not perform the work of this Section during rain, sleet or snow.
- B. Schedule caulking and sealing operations so that working joints are most likely to be normal size. Apply materials within manufacturer's recommended surface and ambient temperature ranges.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Exterior Sealants: Sealants for all joints, unless otherwise indicated, shall be non-sagging, one-part polyurethane sealer.
- B. Back-up Materials: Manufacturer's standards, in general, use closed cell, bead or rope shaped, expanded polyethylene or polyurethane foam. Do not use any uncompressible materials. In general, width or diameter of preformed back-up material shall be 1-1/3 to 1-1/2 times the width of the joint to be sealed.
- C. Manufacturers meeting this specification:
 - 1. Mameco - Vulkem
 - 2. Sonneborn - Sonolastic NP 1
 - 3. Pecora Corporation - Dynatrol 1

PART 3 - EXECUTION

3.01 INSPECTION

- A. Prior to the work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
- B. Verify that all sealant may be installed in accordance with all pertinent codes and regulations, the original design, and the referenced standards.
- C. In the event of discrepancy, immediately notify the A/E.
- D. Do not proceed with installation in areas of discrepancy until all such discrepancies

have been fully resolved.

3.02 PREPARATION

- A. Clean joint surfaces, using joint cleaner as necessary to be free of dust, dirt, oil, grease, rust, lacquers, release agents, moisture or other matter which might adversely affect adhesion of sealant.
- B. Mask areas adjacent to joints.
- C. Apply primer (when required), following manufacturer's instructions.

3.03 APPLICATION

- A. General:
 - 1. Install sealants in strict accordance with the manufacturer's instructions taking care to produce beads of proper width and depth, to tool as recommended by the manufacturer, and to immediately remove all surplus sealant.
 - 2. Employ only proven installation techniques, which will ensure that sealants will be deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of the adjoining bond surfaces equally on opposite sides. Fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and a vertical surface, fill joint to form a slight curve, so that joint will not trap moisture and dirt.
- B. Backer Rods: Install sealant backer rod to depth recommended by sealant manufacturer for the application shown.
- C. Bond Breaker Tape: Install bond breaker tape wherever required by manufacturer's recommendations to ensure that sealants will perform properly.

3.04 CURE AND PROTECTION

- A. Curing: Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and surface durability.
- B. Protection: Protect sealants and caulking compounds during construction so that they will be without deterioration or damage at the time of final acceptance.

3.05 CLEANING

- A. Spillage:

1. Do not allow sealants or compound to overflow or spill onto adjoining surfaces or to migrate into the voids of adjoining surfaces. Use masking tape or other precautionary devices to prevent staining of adjoining surfaces.
 2. Remove excess and spillage of compounds properly as the work progresses. Clean the adjoining surfaces and remove masking tape immediately after caulking and sealing.
- B. Cleaning: Clean adjacent surfaces soiled by sealant operation. Remove wet material before it "sets". Follow manufacturer's recommendations for cleaning procedures. Cleaning agents shall not stain or be injurious to exposed surfaces nor shall they be potentially dangerous to metal surfaces due to washoff by rain.

END OF SECTION 07920

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and color Samples.
- B. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS

- A. Low-Emitting Materials: Sealants shall comply with the following limits for VOC content:
 - 1. Architectural Sealants: 250 g/L.
 - 2. Nonmembrane Roof Sealants: 300 g/L.
 - 3. Single-Ply Roof Membrane Sealants: 450 g/L.
 - 4. Other Sealants: 420 g/L.
 - 5. Sealant Primers for Nonporous Substrates: 250 g/L.
 - 6. Sealant Primers for Porous Substrates: 775 g/L.
 - 7. Modified Bituminous Sealant Primers: 500 g/L.
 - 8. Other Sealant Primers: 750 g/L.
- B. Low-Emitting Materials:
 - 1. Exterior reactive sealants shall have a VOC content of not more than 50 g/L or 4 percent by weight, whichever is greater.
 - 2. Other exterior caulks and sealants shall have a VOC content of not more than 30 g/L or 2 percent by weight, whichever is greater.
 - 3. Interior sealants shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions.
- D. Sealant for Use in Building Expansion Joints:
 - 1. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 50; for Use NT.

- a. Products:
 - 1) BASF Building Systems; Omniseal 50.
 - 2) Dow Corning Corporation; 756 SMS.
 - 3) GE Advanced Materials - Silicones; SilGlaze II SCS2800.
 - 4) May National Associates, Inc.; Bondaflex Sil 295.
 - 5) Pecora Corporation; 895.
 - 6) Polymeric Systems, Inc.; PSI-641.
 - 7) Sika Corporation, Construction Products Division; SikaSil-C995.
 - 8) Tremco Incorporated; Spectrem 2.
- 2. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 100/50; for Use NT.
 - a. Products:
 - 1) Dow Corning Corporation; 790.
 - 2) GE Advanced Materials - Silicones; SilPruf LM SCS2700.
 - 3) Pecora Corporation; 301 NS.
 - 4) Sika Corporation, Construction Products Division; SikaSil-C990.
 - 5) Tremco Incorporated; Spectrem 800.

E. Sealant for General Exterior Use Where Another Type Is Not Specified:

- 1. Single-component, nonsag polysulfide sealant, ASTM C 920, Type S; Grade NS; Class 25; for Use NT.
 - a. Products:
 - 1) Pacific Polymers International, Inc.; Elastoseal 230 Type I.
 - 2) W. R. Meadows, Inc.; Deck-O-Seal One Step.
- 2. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; for Use NT.
 - a. Products:
 - 1) Dow Corning Corporation; 799.
 - 2) GE Advanced Materials - Silicones; UltraGlaze SSG4000.
 - 3) Polymeric Systems, Inc.; PSI-631.
 - 4) Schnee-Morehead, Inc.; SM5731 Poly-Glaze Plus.
 - 5) Tremco Incorporated; Proglaze SSG.
- 3. Single-component, nonsag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; and for Use NT.
 - a. Products:
 - 1) BASF Building Systems; Sonolastic NP1.
 - 2) Bostik, Inc.; Chem-Calk 900.

- 3) Pacific Polymers International, Inc.; Elasto-Thane 230 Type II.
- 4) Pecora Corporation; Dynatrol I-XL.
- 5) Polymeric Systems, Inc.; Flexiprene 1000.
- 6) Sika Corporation, Construction Products Division; Sikaflex - 1a.
- 7) Tremco Incorporated; Vulkem 116.

F. Sealant for Exterior Traffic-Bearing Joints, Where Slope Precludes Use of Pourable Sealant:

1. Single-component, nonsag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; for Use T.

a. Products:

- 1) BASF Building Systems; Sonolastic SL 1.
- 2) Bostik, Inc.; Chem-Calk 950.
- 3) May National Associates, Inc.; Bondaflex PUR 35 SL.
- 4) Pecora Corporation; Urexpan NR-201.
- 5) Polymeric Systems, Inc.; Flexiprene 952.
- 6) Schnee-Morehead, Inc.; Permathane SM7101.
- 7) Sika Corporation. Construction Products Division; Sikaflex - 1CSL.
- 8) Tremco Incorporated; Vulkem 45.

G. Sealant for Use in Interior Joints in Ceramic Tile and Other Hard Surfaces in Kitchens and Toilet Rooms and Around Plumbing Fixtures:

1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; for Use NT; formulated with fungicide.

a. Products:

- 1) BASF Building Systems; Omniplus.
- 2) Dow Corning Corporation; 786 Mildew Resistant.
- 3) GE Advanced Materials - Silicones; Sanitary SCS1700.
- 4) May National Associates, Inc.; Bondaflex Sil 100 WF.
- 5) Pecora Corporation; 898.
- 6) Tremco Incorporated; Tremsil 200 Sanitary.

H. Sealant for Interior Use at Perimeters of Door and Window Frames:

1. Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

a. Products:

- 1) BASF Building Systems; Sonolac.
- 2) Bostik, Inc.; Chem-Calk 600.
- 3) Pecora Corporation; AC-20+.
- 4) Schnee-Morehead, Inc.; SM 8200.
- 5) Tremco Incorporated; Tremflex 834.

I. Acoustical Sealant:

1. Nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission as demonstrated by testing according to ASTM E 90.

a. Products:

- 1) Pecora Corporation; AIS-919.
- 2) USG Corporation; SHEETROCK Acoustical Sealant.

2.2 MISCELLANEOUS MATERIALS

- A. Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.
- D. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with ASTM C 1193.
- B. Install sealant backings to support sealants during application and to produce cross-sectional shapes and depths of installed sealants that allow optimum sealant movement capability.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal perimeters, control joints, openings, and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions. Comply with ASTM C 919.

END OF SECTION 079200

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Standard hollow metal doors and frames.
 - 2. Louvers installed in hollow metal doors.
 - 3. Light frames and glazing installed in hollow metal doors.

- B. Related Sections:

- 1. Division 01 Section "General Conditions".
 - 2. Division 04 Section "Unit Masonry" for embedding anchors for hollow metal work into masonry construction.
 - 3. Division 08 Section "Architectural Flush Wood Doors".
 - 4. Division 08 Section "Glazing" for glass view panels in hollow metal doors.
 - 5. Division 09 Sections "Exterior Painting" and "Interior Painting" for field painting hollow metal doors and frames.

- C. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

- 1. ANSI/SDI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.
 - 2. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frames Anchors and Hardware Reinforcing.
 - 3. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.
 - 4. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
 - 5. ANSI/SDI A250.11 - Recommended Erection Instructions for Steel Frames.
 - 6. ASTM A1008 - Standard Specification for Steel Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 - 7. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 8. ASTM A924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
 - 9. ASTM C 1363 - Standard Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.

10. ANSI/BHMA A156.115 - Hardware Preparation in Steel Doors and Frames.
11. ANSI/SDI 122 - Installation and Troubleshooting Guide for Standard Steel Doors and Frames.
12. ANSI/NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association.
13. ANSI/NFPA 105: Standard for the Installation of Smoke Door Assemblies.
14. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; National Fire Protection Association.
15. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
16. UL 1784 - Standard for Air Leakage Tests of Door Assemblies.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, hardware reinforcements, profiles, anchors, fire-resistance rating, and finishes.
- B. Door hardware supplier is to furnish templates, template reference number and/or physical hardware to the steel door and frame supplier in order to prepare the doors and frames to receive the finish hardware items.
- C. Shop Drawings: Include the following:
 1. Elevations of each door design.
 2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
 4. Locations of reinforcement and preparations for hardware.
 5. Details of anchorages, joints, field splices, and connections.
 6. Details of accessories.
 7. Details of moldings, removable stops, and glazing.
 8. Details of conduit and preparations for power, signal, and control systems.
- D. Samples for Verification:
 1. Samples are only required by request of the architect and for manufacturers that are not current members of the Steel Door Institute.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain hollow metal doors and frames through one source from a single manufacturer wherever possible.
- B. Quality Standard: In addition to requirements specified, furnish SDI-Certified manufacturer products that comply with ANSI/SDI A250.8, latest edition, "Recommended Specifications for Standard Steel Doors and Frames".
- C. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to UL10C (neutral pressure at 40" above sill) or UL 10C.

1. Oversize Fire-Rated Door Assemblies Construction: For units exceeding sizes of tested assemblies, attach construction label certifying doors are built to standard construction requirements for tested and labeled fire rated door assemblies except for size.
2. Temperature-Rise Limit: Where indicated and at vertical exit enclosures (stairwell openings) and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.
3. Smoke Control Door Assemblies: Comply with NFPA 105.
 - a. Smoke "S" Label: Doors to bear "S" label and include smoke and draft control gasketing applied to frame and on meeting stiles of pair doors.

- D. Pre-Submittal Conference: General contractor to conduct conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of the Installer and Electrical Contractor to review proper methods and procedures for installing hollow metal doors and frames and to verify installation of electrical knockout boxes and conduit at frames with electrified or access control hardware. Access control supplier is encouraged to attend but is not mandatory.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project site storage. Do not use non-vented plastic.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Deliver knocked-down frames with head and jambs banded together per opening and palletized.
- D. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch high wood blocking. Do not store in a manner that traps excess humidity.
 1. Provide minimum 1/4-inch space between each stacked door to permit air circulation. Door and frames to be stacked in a vertical upright position.

1.6 PROJECT CONDITIONS

- A. Field Measurements: For work being used in existing conditions (walls) the general contractor is to verify actual dimensions of openings by field measurements before fabrication.

1.7 COORDINATION

- A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.
- B. General contractor is responsible for reviewing opening sizes and handing and confirming with the hollow metal shop drawings and/or submittal.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
- B. Warranty includes installation and finishing that may be required due to repair or replacement of defective doors.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide steel doors and frames from one of the following SDI Certified manufacturers:
 - 1. CECO Door Products (C).
 - 2. Curries Company (CU).
 - 3. Steelcraft (S).

2.2 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.
- C. Frame Anchors: ASTM A 653/A 653M, Commercial Steel (CS), Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

2.3 HOLLOW METAL DOORS

- A. General: Provide 1-3/4 inch doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8 and ANSI/NAAMM HMMA 867.
- B. Exterior Doors: Face sheets fabricated of commercial quality hot-dipped zinc coated steel that complies with ASTM A924 A60. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model, ANSI/SDI A250.4 for physical performance level and for door construction.
 - 1. Design: Flush panel.
 - 2. Core Construction: Polystyrene foam board permanently bonded to face sheets.
 - a. Doors shall be reinforced, stiffened, insulated, and sound deadened with a solid polystyrene foam board permanently bonded to the inside of each face skin. The lock and hinge edge of each door shall be welded with a centered hairline seam the full height of the door
 - b. Thermal properties to rate at a fully operable minimum U-Factor 0.17 and R-Value 5.9, including insulated door, standard frame, gasketing and threshold.

3. Level/Model: Level 3 and Physical Performance Level A (Extra Heavy Duty), Minimum 16 gauge (0.053 inch) thick steel, Model 2 (seamless).
 4. Vertical Edges: Vertical edges to be mechanically interlocked with hairline seam and filled. Beveled Lock Edge, 1/8 inch in 2 inches.
 5. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
 6. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9".
 7. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
- C. Interior Doors: Face sheets fabricated of commercial quality cold rolled steel that complies with ASTM A 1008/A 1008M. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
1. Design: Flush panel.
 2. Core Construction: Manufacturer's standard kraft-paper honeycomb, or one-piece polystyrene core, securely bonded to both faces.
 - a. Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.
 3. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 1.
 4. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet.
 5. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
 6. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
- D. Manufacturers Basis of Design:
1. Curries Company (CU) - Polystyrene Core - 707 Series.
 2. Ceco Company (CO) – Polystyrene Core – Legion Series.

2.4 HOLLOW METAL FRAMES

- A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.
- B. Exterior Frames: Fabricated of hot-dipped zinc coated steel that complies with ASTM A 653/A 653M, Coating Designation A60.
1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
 2. Frames: Minimum 16 gauge (0.053-inch -1.3-mm) thick steel sheet.
 3. Exterior frames to be face welded.

- 4. Manufacturers Basis of Design:
 - a. Curries Company (CU) – M Series.
 - b. Ceco Company (CO) – SU Series.
- C. Interior Frames: Fabricated from cold-rolled steel sheet that complies with ASTM A 1008/A 1008M.
 - 1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
 - 2. Frames: Minimum 16 gauge (0.053-inch -1.3-mm) thick steel sheet.
 - 3. Interior frames for masonry wall applications to be face welded.
 - 4. Interior frames for drywall partitions to be knocked down.
 - 5. Manufacturers Basis of Design:
 - a. Curries Company (CU) - C Series.
 - b. Ceco (CO) – DQ Series.
- D. Fire rated frames: Fabricate frames in accordance with NFPA 80, listed and labeled by a qualified testing agency, for fire-protection ratings indicated.
- E. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.

2.5 FRAME ANCHORS

- A. Jamb Anchors:
 - 1. Masonry Type: Adjustable strap-and-stirrup, T-shaped or wire anchors to suit frame size, formed from A60 metallic coated material, not less than 0.042 inch thick.
 - 2. Stud Wall Type: Designed to engage stud and not less than 0.042 inch thick.
 - 3. Compression Type for Drywall Slip-on (Knock-Down) Frames: Adjustable compression anchors.
- B. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.
- C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.

2.6 LOUVERS

- A. Metal Louvers: Unless otherwise indicated provide louvers to meet the following requirements.
 - 1. Blade Type: Vision proof inverted V or inverted Y.
 - 2. Metal and Finish: Galvanized steel, 0.040 inch thick, factory primed for field painted finish. Match door paint color.
- B. Louvers for Fire Rated Doors: Metal louvers with fusible link and closing device, listed and labeled for use in doors with fire protection rating of 1-1/2 hours and less. Louvers in 20-minute doors are not allowed.

1. Manufacturers: Subject to compliance with requirements, provide louvers to meet rating indicated – 45-, 60-, or 90-minute.
2. Metal and Finish: Galvanized steel, 0.040 inch thick, factory primed for paint finish with baked enamel or powder coated finish. Match pre-finished door paint color where applicable.

2.7 LIGHT OPENINGS AND GLAZING

- A. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints at fabricator's shop. Fixed and removable stops to allow multiple glazed lites each to be removed independently. Coordinate frame rabbet widths between fixed and removable stops with the type of glazing and installation indicated.
- B. Moldings for Glazed Lites in Doors and Loose Stops for Glazed Lites in Frames: Minimum 20 gauge thick, fabricated from same material as door face sheet in which they are installed.
- C. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch (16 mm) high unless otherwise indicated. Provide fixed frame moldings and stops on outside of exterior and on secure side of interior doors and frames.
- D. Preformed Metal Frames for Light Openings: Manufacturer's standard frame formed of 0.048-inch-thick, cold rolled steel sheet, field painted; approved for use in doors of fire protection rating indicated. Match door paint color.

2.8 ACCESSORIES

- A. Grout Guards: Formed from same material as frames, not less than 0.016 inches thick.

2.9 FABRICATION

- A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. When shipping limitations so dictate, frames for large openings are to be fabricated in sections for splicing or splining in the field by others.
- B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/SDI A250.8.
- C. Hollow Metal Doors:
 1. Exterior Doors: Provide optional weep-hole openings in bottom of exterior doors to permit moisture to escape where specified.
 2. Glazed Lites: Factory cut openings in doors with applied trim or kits to fit. Glazing to be field installed under Section 088000.
 3. Astragals: Provide overlapping astragals as noted in door hardware sets in Division 08 Section "Door Hardware" on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted.

4. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge strap for continuous hinges specified in hardware sets in Division 08 Section "Door Hardware".
5. Electrical Raceways: Provide hollow metal doors to receive electrified hardware with concealed wiring harness and standardized Molex™ plug connectors on both ends to accommodate up to twelve wires. Coordinate connectors on end of the wiring harness to plug directly into the electrified hardware and the through-wire transfer hardware or wiring harness specified in hardware sets in Division 08 Sections "Door Hardware" and "Access Control Hardware". Wire nut connections are not acceptable.

D. Hollow Metal Frames:

1. Shipping Limitations: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
2. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
 - a. Welded frames are to be provided with two steel spreaders temporarily attached to the bottom of both jambs to serve as a brace during shipping and handling. Spreader bars are for bracing only and are not to be used to size the frame opening.
3. Knocked Down Frames: Provide frames with locking corner tabs which permit field assembly. Factory install compression type anchors and countersunk screw holes or optional base anchor straps to secure the bottom of the jambs.
4. High Frequency Hinge Reinforcement: Provide high frequency hinge reinforcements at door openings wider than 48-inches with mortise butt type hinges at top hinge locations.
5. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge straps for continuous hinges specified in hardware sets in Division 08 Section "Door Hardware".
6. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated for removable stops, provide security screws at exterior locations.
7. Mortar Guards: Provide guard boxes at back of hardware mortises in frames at all hinges and strike preps regardless of grouting requirements.
8. Electrical Thru-Wiring: Provide hollow metal frames receiving electrified hardware with loose wiring harness (not attached to open throat components or installed in closed mullion tubes) and standardized Molex™ plug connectors on one end to accommodate up to twelve wires. Coordinate connectors on end of the wiring harness to plug directly into the electric through-wire transfer hardware or wiring harness specified in hardware sets in Division 08 Sections "Door Hardware" and "Access Control Hardware".
9. Electrical Knock Out Boxes: Factory weld 18 gauge electrical knock out boxes to frame for electrical hardware preps; including but not limited to, electric through wire transfer hardware, electrical raceways and wiring harnesses, door position switches, electric strikes, magnetic locks, and jamb mounted card readers as specified in hardware sets in Division 08 Sections "Door Hardware" and "Access Control Hardware".
 - a. Provide electrical knock out boxes with dual 1/2-inch and 3/4-inch knockouts.
 - b. Conduit to be coordinated and installed in the field (Division 26) from middle hinge box and strike box to door position box.
 - c. Electrical knock out boxes to comply with NFPA requirements and fit electrical door hardware as specified in hardware sets in Division 08 Section "Door Hardware".

- d. Electrical knock out boxes for continuous hinges should be located in the center of the vertical dimension on the hinge jamb. Where power transfer hardware (EPT) is used, locate EPT per manufacturer's standard.
- 10. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
- 11. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Masonry Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
 - 1) Two anchors per jamb up to 60 inches high.
 - 2) Three anchors per jamb from 60 to 90 inches high.
 - 3) Four anchors per jamb from 90 to 120 inches high.
 - 4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.
 - b. Stud Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
 - 1) Three anchors per jamb up to 60 inches high.
 - 2) Four anchors per jamb from 60 to 90 inches high.
 - 3) Five anchors per jamb from 90 to 96 inches high.
 - 4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
- 12. Door Silencers: Except on weather-stripped or gasketed doors, drill stops to receive door silencers. Silencers to be supplied by frame manufacturer regardless if specified in Division 08 Section "Door Hardware".
- 13. Bituminous Coating: Where frames are fully grouted with an approved Portland Cement based grout or mortar, general contractor or masonry contractor is to coat inside of frame throat with a water based bituminous or asphaltic emulsion coating to a minimum thickness of 3 mils DFT, tested in accordance with UL 10C and applied to the frame under a 3rd party independent follow-up service procedure.
- E. Hardware Preparation: Factory prepare hollow metal work to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
 - 1. Locate hardware per manufacturer's standard as indicated, or if not indicated, according to ANSI/SDI A250.8.
 - 2. Reinforce doors and frames to receive non-template, mortised and surface mounted door hardware.
 - 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
 - 4. Coordination between general and electrical contractors for locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

2.10 STEEL FINISHES

- A. Prime Finishes: Doors and frames to be cleaned, and chemically treated to insure maximum finish paint adhesion. Surfaces of the door and frame exposed to view to receive a factory applied coat of rust inhibiting shop primer.
 - 1. Shop Primer: Manufacturer's standard, fast-curing, lead and chromate free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; and compatible with substrate and field-applied coatings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. General Contractor to verify opening sizes and swings with door and frame shop drawings and/or submittals.
- C. General Contractor to verify the accuracy of dimensions given to the steel door and frame manufacturer for existing openings or existing frames (strike height, hinge spacing, hinge back set, etc.).
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Prior to installation, adjust and securely brace welded hollow metal frames for square, level, twist, and plumb condition.
- C. Tolerances shall comply with SDI-117 "Manufacturing Tolerances Standard Steel Doors and Frames."
- D. Drill and tap doors and frames to receive non-template, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

- A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
- B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11 and NFPA 80 at fire rated openings.

1. Set frames accurately in position, plumbed, leveled, aligned, and braced securely until permanent anchors are set. After wall construction is complete and frames properly set and secured, remove temporary braces, leaving surfaces smooth and undamaged. Shim as necessary to comply with installation tolerances.
 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
 3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with mortar and install per SDI publication "Steel Door Frame Installation in Masonry Construction."
 4. Drywall Partitions: Install welded frames per SDI publication "Steel Door Frames Installation in Steel Stud Construction."
 5. Drywall Partitions: Install knocked down slip-on drywall frames as per the manufacturer's recommendations.
 6. Grout Requirements: Do not grout head of frames unless reinforcing has been installed in head of frame. Do not grout vertical or horizontal closed mullion members.
 7. Do not use frame heads as structural support – steel or masonry lintels are required at masonry construction.
- C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Standard Steel Doors:
 - a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
 - b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
 - c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
 - d. Between Bottom of Door and Bottom of Frame: Maximum 3/4 inch.
 2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
- D. Field Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instructions.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow metal work immediately after installation.
- C. Prime-Coat and Painted Finish Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat, or painted finishes, and apply touchup of compatible air drying, rust-inhibitive primer, zinc rich primer (exterior and galvanized openings) or finish paint.

3.5 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Reference Division 01 Sections "Closeout Procedures". Produce project punch report for each installed door opening indicating compliance with

approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Door ID Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

END OF SECTION 081113

SECTION 081416 – ARCHITECTURAL FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Interior flush wood doors.
- B. Related Requirements:
 - 1. Section 081113 – Hollow Metal Doors and Frames
 - 2. Section 087100 – Door Hardware
 - 3. Section 099100 - Painting

1.2 PREINSTALLATION MEETINGS

- A. General contractor to conduct pre-installation meetings at project site to include the door installer, hardware installer and access control supplier.
- B. Discussion Topics:
 - 1. Delivery, storage, and handling.
 - 2. Coordination with hardware installation.
 - 3. Protection of installed doors.

1.3 ACTION SUBMITTALS

- A. Product Data: Each type of door and finish.
 - 1. Core and edge construction.
 - 2. Fire rated doors.
 - 3. Glazed openings.
 - 4. Louvers (not available on 20-minute fire/smoke doors).
 - 5. Finishes.
- B. Shop Drawings and Schedule:
 - 1. Use the same door numbers and unit designations used in Contract Documents.
 - 2. Hardware preparation.
 - 3. Glazed openings.
 - 4. Louvers (not available on 20-minute fire/smoke doors).

C. Samples for Selection:

1. Provide three sets of available standard stain colors and gloss options. Submit samples in the form of actual factory standard finish samples; printed brochures may be included in opening schedules for general representation, but are not acceptable for final finish selection.
2. Available molding profiles for glazed openings.

D. Samples for Verification:

1. Each required veneer species and factory finish; corner unit showing construction and finish minimum 8 by 10 inches.
2. Light Opening Moldings: Minimum of 6 inches long, for each material, type, and finish required.

1.4 INFORMATIONAL SUBMITTALS

A. Sustainable Design Submittals (when required):

- ~~1. Chain of Custody Certificates: For certified wood products. Include statement of costs.~~
- ~~2. Chain of Custody Qualification Data: For manufacturer and vendor.~~
3. Laboratory Test Reports: For adhesives, indicating compliance with requirements for low-emitting materials.
4. Laboratory Test Reports: For composite wood products, indicating compliance with requirements for low-emitting materials.

B. Oversize Construction Certification: Engineering judgment certification of fire resistance ratings for oversize doors not specifically tested by manufacturer.

C. Sample warranty: Manufacturer's standard warranty for lifetime of the product.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance data.
- B. Manufacturer warranties transferrable to Owner.
- C. Operation and maintenance manuals.

1.6 QUALITY ASSURANCE

- ~~A. Manufacturer Qualifications: Certified for chain of custody by an FSC-accredited certification body.~~
- B. Vendor Qualifications: Certified for chain of custody by an FSC-accredited certification body.
- C. Mock-Ups: Supply doors for room mock-ups specified in Division 01 (if required).

1. Acceptable mock-ups in satisfactory condition at Substantial Completion may remain as part of the Work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Package factory-finished doors individually in manufacturer's standard plastic bags, stretch wrap, or cardboard cartons.
- B. Store doors inside building in clean, dry location.
- C. Mark each door on top or bottom rail (as standard with the manufacturer) with opening number used on Shop Drawings, door size, factory order number and finish color.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weather tight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during remainder of construction period.

1.9 MANUFACTURER WARRANTIES

- A. Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period and as indicated in the manufacturer's warranty document.
 1. Failures include, but are not limited to, the following:
 - a. Warping (bow, cup, or twist) more than 1/4-inch in 42-by-84-inch section.
 - b. Telegraphing of core construction in face veneers exceeding 0.01 inch in 3-inch span.
 2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
- B. Warranty Periods:
 1. Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Products of Aspiro™ Series | Marshfield-Algoma by Masonite Architectural are specified to indicate requirements for quality and appearance.
 1. Website: masonite.com/architectural/products/aspiro-series
 2. Phone: 877.332.4484

- B. Subject to compliance with requirements, equivalent products of the following manufacturers will be acceptable.
 - 1. Lambton Doors: 235 2nd Avenue, Lambton, QC; G0M 1H0 Canada. Phone: 800-363-2448
 - 2. VT Industries: 100 Industrial Park, P.O. Box 490, Holstein, IA 51025. Phone: 800-827-1615
- C. Source limitations: Obtain all architectural flush wood doors from a single manufacturer.

2.2 MANUFACTURING STANDARDS

- A. Interior Flush Wood Doors: Window & Door Manufacturers Association publication ANSI/WDMA I.S. 1A “Industry Standard for Interior Architectural Wood Flush Doors” current edition.
- B. Fire-Rated Wood Doors: Conforming to NFPA 80; listed and labeled for required ratings based on testing at positive pressure NFPA 252 or UL 10C by UL or other testing agency acceptable to authorities having jurisdiction
 - 1. Temperature-Rise Limit: Where indicated at vertical exit enclosures and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 250 deg F above ambient after 30 minutes of standard fire-test exposure.
 - 2. Blocking: Provide manufacturer’s standard blocking approved for use in doors of fire-protection ratings indicated as needed to maintain WDMA performance level and eliminate through-bolting hardware.
 - 3. Vertical Edge Construction:
 - a. Category A Positive Pressure: Integral intumescent seals concealed by outer stile where required.
 - b. Category B Positive Pressure: Intumescent seals applied to door frame per requirements of Section 087100 Door Hardware where required.
 - 4. Pairs: Fire-retardant stiles with concealed intumescent seals that are listed and labeled for applications indicated without formed-steel edges and astragals.
 - 5. Acoustical Rating for Solid Core Doors: Where indicated in door schedule, provide STC rated doors with seals and gaskets tested by manufacturer.

2.3 SUSTAINABILITY REQUIREMENTS

- ~~A. Certified Wood: “FSC Pure” or “FSC Mixed Credit” per FSC STD-01-001 and FSC STD-40-004.~~
- B. Adhesives: Meeting testing and product requirements of California Department of Public Health’s “Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers.”

- C. Composite Wood Products: Manufactured with ultra-low-emitting formaldehyde resins as defined in California Air Resources Board's "Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products" or with no added formaldehyde.

2.4 INTERIOR SOLID CORE FLUSH WOOD DOORS FOR TRANSPARENT FINISH – SELECT WOOD VENEER

- A. Basis of Design: Aspiro™ Series by Masonite Architectural.
 - 1. Equal products by Lambton Doors or VT Industries are acceptable.
- B. Solid Core Select Wood Veneer Flush Doors
 - 1. WDMA Performance Level: Heavy Duty
 - 2. Faces:
 - a. Veneer Grade: A.
 - b. Veneer Species: White maple.
 - c. Veneer Cut: Plain sliced.
 - d. Veneer Leaf Match: Book matched.
 - e. Veneer Face Match/Assembly: Running matched.
 - 3. Pair Match: Provide for doors hung in same opening (including doors separated by frame mullions).
 - 4. Vertical Edges: Structural composite with compatible edge as determined by the manufacturer's standards.
 - 5. Horizontal Edges: Structural composite lumber or as standard with the manufacturer.
 - 6. Core: Standard LD-1 wood based particle board; At rated doors, manufacturer's standard fire core required to obtain specified fire rating.
 - 7. Construction: Five Plies; stiles and rails bonded to core, and entire unit is abrasive planed before veneering.
 - 8. Thickness: 1-3/4 inches.
- C. Solid Core Select Wood Veneer Flush Doors with Glazed Lites:
 - 1. Match appearance grade and applicable construction and performance requirements of other standard veneer flush solid core wood doors.
 - 2. Glazing: Refer to Section 088000 "Glazing" for glass view panels in flush wood doors. Glazing to be provided by and field installed by Section 088000 vendor. Fill glazing bead nail holes in factory finished doors. Glazing contractor to field-measure door lite openings to determine glazing size required.
 - 3. Wood Glazing Accessories: Solid wood of same or compatible species as face veneer in standard profile as standard with the manufacturer.
 - a. Bead Profile: Straight (flush).
 - b. Grilles: Where required, grilles are to be integral with the glass panels and provided by Section 088000 vendor.

4. Metal Glazing Frames: Manufacturer's standard frame formed of 18 ga thick, cold-rolled or mild steel sheet; factory standard beige powder coated finish.
 - a. Frame Design: Metal Vision Frame similar to All Metal Stamping Model #110 or equal.
- D. Solid Core Select Wood Veneer Flush Doors with Louvers (where required – not available for 20-minute fire/smoke doors):
 1. Match appearance grade and applicable construction and performance requirements of other standard veneer flush solid core wood doors.
 2. Wood Louvers: Inverted "V" (Chevron) shape sight-proof.
 3. Metal Louvers: Air louvers Model 600A1, or equal, beige powder-coated finish.
- E. Fire-Rated Select Wood Veneer Flush Doors:
 1. Match appearance grade and applicable construction and performance requirements of non-rated transparent finish flush wood doors.
 2. Ratings: Category A positive pressure for 45, 60 and 90-minute rated openings; positive Pressure Category B at 20-minute rated openings.
 3. Core:
 - a. 20-Minute Doors: Wood-based particle core.
 - b. 45-Minute Doors: Mineral core with blocking options.
 - c. 60-, 90-Minute Doors: Mineral core with blocking options.
 4. Vertical Edges:
 - a. 20-Minute Doors: Compatible stiles as standard with the manufacturer, bonded to the core.
 - b. 45-, 60-, 90-Minute Mineral Core Doors: Compatible hardwood stiles as standard with the manufacturer, bonded to the core.
 5. Horizontal Edges:
 - a. 20-Minute Doors: Structural composite lumber or as standard with the manufacturer.
 - b. 45-, 60-, 90-Minute Doors: Manufactures standard construction per label service listing, bonded to the core.
- F. Fire-Rated Select Wood Veneer Flush Doors with Glazed Lites:
 1. Match appearance grade and applicable construction and performance requirements of non-rated transparent finish flush wood doors.
 2. Glazing: Refer to Section 088000 "Glazing" for glass view panels in flush wood doors. Glazing field installed by Section 088000 vendor. Fill glazing bead nail holes in factory finished doors. Glazing contractor to field-measure door lite openings to determine glazing size required.
 3. Wood Glazing Accessories: Solid wood of same species as face veneer in standard profile selected by Architect.

- a. Bead Profile: Straight.
- b. Grilles: Where required, grilles are to be integral with the glass panels and provided by Section 088000 vendor.
- c. At particle board core doors with 20-minute fire-protection ratings, provide wood beads and metal glazing clips as required and approved for such use.
- 4. Metal Glazing Frames: Manufacturer's standard frame formed of 18 ga thick, cold-rolled or mild steel sheet; factory standard beige powder coated finish.
 - a. Frame Design: Metal Vision Frame similar to All Metal Stamping Model #110 or equal.

2.5 FINISHES

- A. Finish Grade: Match grade of door.
- B. Transparent: WDMA TR-8, UV Cured Acrylated Polyester/Urethane, or AWI TR-8, new System 9 according to AWS Edition 1-2009.
 - 1. Staining: To be selected from manufacturer's standard full line.
 - 2. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that door frames are plumb, square, and accurate size.
- B. Inspect each door before installation for damage and defects per WDMA Section F-6.

3.2 INSTALLATION

- A. Hardware installation is conforming to Section 087100 – Door Hardware.
- B. Reference Standards:
 - 1. Wood Doors: WDMA I.S. 1A
 - 2. Fire-Rated Doors: NFPA 80.
 - 3. Smoke-and Draft-Control Doors: NFPA 105.
- C. Align doors with uniform vertical and top edge clearance.

3.3 REPAIR

- A. Field repairs and touchups are the responsibility of the installing contractor upon completion of initial installation. Field touchup shall include the filling of exposed nail or screw holes, re-

finishing of raw surfaces resulting from job fitting, repair of job inflicted scratches and mars and final cleaning of finished surfaces. Repair of damage or defects is subject to Architect's acceptance, including removal of soiling. Provide new replacement doors for doors that cannot be satisfactorily repaired.

3.4 PROTECTING AND CLEANING

- A. General contractor to protect installed doors from damage and soiling.
- B. Clean doors shortly before inspection for Substantial Completion.
- C. When cleaning door surfaces, use a non-abrasive commercial cleaner designed for cleaning wood door or paneling surfaces that does not leave a film residue that would build up or affect the surface gloss of the door finish.

END OF SECTION

SECTION 083113 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Rated Access Doors and Frames: Labeled by a testing and inspecting agency acceptable to authorities having jurisdiction based on testing per the following:
 - 1. Vertical Access Doors: NFPA 252 or UL 10B.
 - 2. Horizontal Access Doors and Frames: NFPA 288.

2.2 ACCESS DOORS AND FRAMES FOR WALLS AND CEILINGS

- A. Manufacturers:
 - 1. Access Panel Solutions.
 - 2. Babcock-Davis.
 - 3. Larsen's Manufacturing Company.
 - 4. Metropolitan Door Industries Corp.
 - 5. Milcor Inc.
- B. Flush Access Doors with Concealed Flanges: Prime-painted steel units with drywall bead flange.
- C. Fire-Rated, Flush Access Doors with Concealed Flanges: Prime-painted steel, self-latching units with automatic closer.
- D. Locks: Flush to finished surface, key operated.

2.3 MATERIALS

- A. Steel Sheets: ASTM A 1008/A 1008M or ASTM A 591/A 591M.
- B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, with A60 or G60 coating.
- C. Aluminum Sheet: ASTM B 209, Alloy 5005-H15.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install access doors and panels accurately in position. Adjust hardware and door and panels for proper operation.
- B. Install fire-rated access doors and panels according to NFPA 80.

END OF SECTION 083113

SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings, and color Samples.
 - 1. For entrance doors, include hardware schedule.

PART 2 - PRODUCTS

2.1 ALUMINUM-FRAMED STOREFRONTS

- A. Manufacturers:
- B. Basis-of-Design Product: Kawneer Trifab 451UT (Thermal) or a comparable product of one of the following:
 - 1. Arcadia, Inc.
 - 2. Commercial Architectural Products, Inc.
 - 3. EFCO Corporation.
 - 4. TRACO.
 - 5. Tubelite.
 - 6. Vistawall Architectural Products; The Vistawall Group; a Bluescope Steel company.
- C. Accessible Entrances: Comply with ICC A117.1.
- D. Performance Requirements:
 - 1. Limit deflection of framing members normal to wall plane to 1/175 of clear span for spans up to 13 feet 6 inches (4.1 m) and to 1/240 of clear span plus 1/4 inch (6.35 mm) for spans greater than 13 feet 6 inches (4.1 m) or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19 mm), whichever is less.
 - 2. Limit deflection of framing members parallel to glazing plane to L/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller.
 - 3. Structural Testing: Systems tested according to ASTM E 330 at 150 percent of inward and outward wind-load design pressures do not evidence material failures, structural distress, deflection failures, or permanent deformation of main framing members exceeding 0.2 percent of clear span.
 - 4. Air Infiltration: Limited to 0.06 cfm/sq. ft. (0.03 L/s per sq. m) of system surface area when tested according to ASTM E 283 at a static-air-pressure difference of 1.6 lbf/sq. ft. (75 Pa).

5. Water Penetration: Systems do not evidence water leakage when tested according to ASTM E 331 at minimum differential pressure of 20 percent of positive wind-load design pressure, but not less than 10 lbf/sq. ft. (479 Pa).
 6. Thermal Conductance: Average U-factor of not more than 0.36 when tested according to AAMA 1503.
 - a. SHGC: 0.40.
 - b. Glazed Entrance Door U-Factor: 0.73.
 7. Windborne-Debris Resistance: Framing system and doors pass basic protection testing requirements in ASTM E 1996 for Wind Zone 1 when tested according to ASTM E 1886.
 8. Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC): When tested to AAMA Specification 1801 and in accordance with ASTM E1425 and ASTM E90, the STC and OITC Rating shall not be less than:
 - a. 37 (STC) and 30 (OITC).
- E. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated; ASTM B 209 (ASTM B 209M) sheet; ASTM B 221 (ASTM B 221M) extrusions.
- F. Glazing: As specified in Section 088000 "Glazing."
- G. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.
- H. Doors: 1-3/4-inch- (44.5-mm-) thick glazed doors with minimum 0.125-inch- (3.2-mm-) thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods. Provide snap-on extruded-aluminum glazing stops, and preformed gaskets.
1. Door Design: Medium stile; 3-1/2-inch (88.9-mm) nominal width.
 2. Accessible Doors: Smooth surfaced for width of door in area within 10 inches (255 mm) above floor or ground plane.
 3. Interior Doors: Provide BHMA A156.16 silencers, three on strike jamb of single-door frames and two on head of double-door frames.
 4. Exterior Doors: Provide compression weather stripping at fixed stops. At other locations, provide sliding weather stripping retained in adjustable strip mortised into door edge.
 5. Hardware: by Storefront manufacturer
 - a. Pivot hinges
 - b. Grade 1 Lockset, keyed lock cylinder, strike and cylinder guard
 - c. Grade 1 Rim Exit device
 - d. Grade 1 Closer, ADA compliant
 - e. ADA compliant threshold
 - f. Single acting pull
- I. Fasteners and Accessories: Compatible with adjacent materials, corrosion resistant, nonstaining, and nonbleeding. Use concealed fasteners except for application of door hardware.

- J. Fabrication: Fabricate framing in profiles indicated for flush glazing (without projecting stops). Provide subframes and reinforcing of types indicated or, if not indicated, as required for a complete system. Factory assemble components to greatest extent possible. Disassemble components only as necessary for shipment and installation.
 - 1. Door Framing: Reinforce to support imposed loads. Factory assemble door and frame units and factory install hardware to greatest extent possible. Reinforce door and frame units for hardware indicated. Cut, drill, and tap for factory-installed hardware before finishing components.
- K. Aluminum Finish: Fluoropolymer two-coat coating system complying with AAMA 2604.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Isolate metal surfaces in contact with incompatible materials, including wood, by painting contact surfaces with bituminous coating or primer, or by applying sealant or tape recommended by manufacturer.
- B. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.
- C. Set continuous sill members and flashing in full sealant bed as specified in Section 079200 "Joint Sealants" to produce weathertight installation.
- D. Install framing components true in alignment with established lines and grades to the following tolerances:
 - 1. Variation from Plane: Limit to 1/8 inch in 12 feet (3 mm in 3.7 m); 1/4 inch (6 mm) over total length.
 - 2. Alignment: For surfaces abutting in line, limit offset to 1/16 inch (1.5 mm). For surfaces meeting at corners, limit offset to 1/32 inch (0.8 mm).
 - 3. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch (3 mm).
- E. Install doors without warp or rack. Adjust doors and hardware to provide tight fit at contact points and smooth operation.

END OF SECTION 084113

SECTION 085000 - WINDOWS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings, and color Samples.

PRODUCTS

VINYL WINDOWS

Manufacturers:

1. Plygem
2. Silverline
3. Interstate
4. MI Windows
5. Jeld Wen
6. Quaker

Window Types: The following types, as indicated on Drawings:

1. Casement.
 2. Fixed.
- C. Window Color:
1. Exterior: Black.
 2. Interior: White.
- D. Frame Options:
1. Integral nailing fin.
 2. Provide window limiters at all operable windows.

WINDOWS

- A. Performance Requirements: AAMA/WDMA/CSA 101/I.S.2/A440.

1. Performance Class: LC.

Performance Grade: 30.

Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.24 Btu/sq. ft. x h x deg F.

4. Minimum ½" insulated glass.

Solar Heat-Gain Coefficient: NFRC 200 maximum whole-window SHGC of 0.23.

6. EPA/DOE ENERGY STAR COMPLIANT.
7. Warranty: Provide a minimum 10-year material warranty for windows and minimum 10-year warranty for breakage of seal.

- 8. Windows shall be factory mulled.
- 9. Wind rating: 130 mph.
- B. Trim: Provide indicated trim, matching material and finish of frame members.
- C. Equip units with aluminum mesh insect screens at operable sashes.
- D. Glaze units with, low-e coated, sealed insulating glass, complying with Section 088000 "Glazing."

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set units level, plumb, and true to line, without warp or rack of frames and panels. Provide proper support and anchor securely in place.
- B. Install and flash per manufacturer's specifications.
- C. Set sill members in bed of sealant or with gaskets, as indicated, to provide weathertight construction.
- D. Adjust operating panels, screens, and hardware to provide a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.
- E. Clean glass and vinyl surfaces immediately after installing windows. Remove nonpermanent labels from glass surfaces.
- F. Before installing windows, perform initial installation with Architect for inspection and approval.

END OF SECTION 085000

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes hardware for doors specified in “Hardware Sets”.
- B. Related Divisions:
 - 1. Division 03 Concrete
 - 2. Division 06 Rough & Finish Carpentry
 - 3. Division 07 Joint Sealants
 - 4. Division 08 Openings
 - 5. Division 09 Finishes
 - 6. Division 10 Specialties
 - 7. Division 13 Special Construction

1.02 REFERENCES

- A. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI):
 - 1. ANSI/BHMA A156.1 Butts & Hinges (2016)
 - 2. ANSI/BHMA A156.2 Bored & Preamsembled Locks & Latches (2017)
 - 3. ANSI/BHMA A156.3 Exit Devices (2020)
 - 4. ANSI/BHMA A156.4 Door Controls – Closers (2019)
 - 5. ANSI/BHMA A156.5 Cylinders and Input Devices for Locks (2020)
 - 6. ANSI/BHMA A156.6 Architectural Door Trim (2015)
 - 7. ANSI/BHMA A156.8 Door Controls – Overhead Stops and Holders (2015)
 - 8. ANSI/BHMA A156.12 Interconnected Locks & Latches (2018)
 - 9. ANSI/BHMA A156.13 Mortise Locks & Latches (2017)
 - 10. ANSI/BHMA A156.14 Sliding & Folding Door Hardware (2019)
 - 11. ANSI/BHMA A156.15 Closer Holder Release Devices (2015)
 - 12. ANSI/BHMA A156.16 Auxiliary Hardware (2018)
 - 13. ANSI/BHMA A156.17 Self-Closing Hinges & Pivots (2019)
 - 14. ANSI/BHMA A156.18 Materials & Finishes (2020)
 - 15. ANSI/BHMA A156.21 Thresholds (2019)
 - 16. ANSI/BHMA A156.22 Door Gasketing Systems (2017)
 - 17. ANSI/BHMA A156.26 Continuous Hinges (2017)
 - 18. ANSI/BHMA A156.28 Keying Systems (2018)
 - 19. ANSI/BHMA A156.36 Auxiliary Locks (2020)
 - 20. ANSI/BHMA A156.39 Residential Locksets and Latches (2020)
- B. International Code Council/American National Standards Institute
(ICC/ANSI)/ADA:
 - 1. ICC/ANSI A117.1 Standards for Accessible and Usable Buildings and Facilities.
- C. Door and Hardware Institute (DHI):
 - 1. DHI Publication – Abbreviations and Symbols (2019).
 - 2. DHI Publication – Installation Guide for Doors and Hardware (2020).
 - 3. DHI Publication – Sequence and Format of Hardware Schedule (2019).
- D. National Fire Protection Agency (NFPA):
 - 1. NFPA 70 National Electrical Code.

2. NFPA 80 Standard for Fire Doors and Other Opening Protectives.
3. NFPA 105 Standard for the Installation of Smoke Door Assemblies.

1.03 SUBMITTALS

- A. Submit in accordance with Conditions of the Contract and Division 01 Administrative Requirements and Submittal Procedures Section.
- B. Shop Drawings:
 1. Schedule hardware in vertical format using the DHI publication Sequence and Formatting for the Hardware Schedule.
 2. Include abbreviations and symbols page to include manufacturers' abbreviations, finish code descriptions, and fastener abbreviations including descriptions according to the DHI publication Abbreviations and Symbols.

3. Detail headings referencing the Architect's heading, opening number, locations, fire rating, handing, degree of opening, and description of the opening elements. Include Voltage, amperage, and operational descriptions for openings that have electrified hardware.
4. Coordinate final door hardware schedule with doors, frames, and related work listing proper sizing of hardware, addressing door thickness, handing, function, mounting accessories, and finish of hardware.
5. List related door devices specified in other Sections for each opening.
6. Architectural Hardware Consultant (AHC), as certified by DHI, who will affix seal attesting to completeness and correctness, including the review of the hardware schedule prior to submittal.

C. Product Data:

1. Furnish manufacturers' catalog sheets on design, grade, and function of items listed in hardware schedule. Submit only relevant information and circle or highlight the technical information including: model numbers, sizing information, voltage and amperage requirements, options and accessories required, means of fastening, listings of fire-rated applications, and finishes.

E. Templates:

1. Within fourteen days of receiving approved door hardware submittals submit complete list of templates for each hardware item to the opening manufacturers and the installers. Include detailed lists of the hardware location requirements for mortised and surface applied hardware.

F. Closeout Submittals: Include the following information as well as highlight and flag fire rated openings for annual inspections:

1. Cover page with required information:
 - a. Project name
 - b. Hardware supplier's name and contact information.
 - c. Date of substantial completion.
2. Final record hardware schedule.
3. Product Data.
4. Keying Schedule.
5. Operating and Maintenance Manual.
6. Warranty Information.

1.04 QUALITY ASSURANCE

- A. Hardware supplier shall employ an Architectural Hardware Consultant (AHC) as certified by DHI and a member of the seal program who will be available at reasonable times during course of work for Project hardware consultation.
- B. Where openings are required to be accessible door hardware shall conform to ICC/ANSI A117.1.
- C. Fire Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware complying with NFPA 80 that are listed and/or labeled by a qualified testing agency for fire-protection ratings indicated.
- D. Smoke and Draft Control Door Assemblies: Where smoke and draft control doors are required, provide door hardware that meets requirements of assemblies in compliance with NFPA 105.
- E. Door hardware certified to ANSI/BHMA standards as noted, manufacturer must participate and be

listed in BHMA Certified Products Directory.

- F. Substitution requests shall be submitted in compliance with Division 01: create a comparison chart that includes the testing information as well as the warranty for both the specified product and the proposed substitution. Include the reason for requesting the substitution, clear catalog copy highlighting the proposed product and options, compliance statement, technical data, product warranty and lead time, to show how the proposed can meet or exceed established level of design, function, and quality.
- G. Meetings: Comply with requirements in Division 01 Section "Project Meetings."
 - 1. Keying Meeting
 - a. Within fourteen days of receiving approved door hardware submittals, contact Owner to establish a keying conference. Include keying meeting decisions into final keying schedule submittal after reviewing the following, but not limited to:
 - i. Function of the building, flow of traffic, individual area's purpose, and degree of security.
 - ii. Lock functions and operation.
 - iii. Preliminary key system schematic diagram.

- iv. Verify existing keyway(s), and/or proposed keyway(s)
- v. Visual key and cylinder identification
- vi. Quantity of keys required including master level keys, change keys, and keys per lock.
- vii. Review the key control system.
- viii. Determine the recipient and contact information for the delivery of keys and accessories.

- H. Installer Qualifications: Specialized in performing installation of this Section and have five years minimum documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Pack each item complete with necessary parts and fasteners in manufacturer's original packaging.
- B. Mark hardware that is not bulk packed with architect's opening number, hardware set number, and item number for each type of hardware. Include keyset symbols and corresponding hardware component for keyed products. Mark hardware that is bulk packed with manufacturers' part number and reference all hardware sets associated.
- C. Deliver hardware to the job site according to the phasing agreed upon in the pre-installation meeting. Inventory the delivery with the supplier's assistance. Immediately note shortages and damages on the shipping receipts and bill of lading. Coordinate replacement or repair with the supplier.
- D. Deliver permanent keys, cores, and related accessories directly to Owner via registered mail or overnight package service. Establish the instructions for delivery to Owner at "Keying Conference."
- E. Provide a clean, dry, and secure room for hardware delivered. Shelf hardware off the floor and with larger items of hardware stored on pallets. Arrange locksets and keyed cylinders by opening number. Organize the balance of hardware by brand, model of hardware, and hardware set number. Leave the door markings of the hardware visible for installers.
- F. Waste Management and Disposal: Separate waste materials for use or recycling in accordance with Division 01.

1.06 WARRANTY

- A. General Warranty: Comply Division 01 for Warranty requirements.
- B. Special Warranty: Warranties specified in this article will not deprive Owner of other rights.
 - 1. Ten years for manual door closers.
 - 2. One year for locks.
 - 3. Five years for exit devices.

1.07 MAINTENANCE

- A. Maintenance Tool and Instructions: Furnish a complete set of specialized tools and maintenance instructions for Owner's continued adjustment, maintenance, removal, and replacement of door hardware.

PART 2 – PRODUCTS

2.01 MATERIALS

A. General:

1. Produce hardware units of basic metal and forming method using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified within this specification section for applicable hardware units for finish designations indicated.

B. Fasteners:

1. Furnish screws for installation with each hardware item. Use only fasteners that are furnished by the hardware manufacturer to meet the manufacturer's templating requirements, warranty and NFPA 80 requirements.
2. Provide Phillips flat-head screws except as otherwise indicated.
3. Finish exposed screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
4. Use machine screws with lead expansion shields at hardware mounting to masonry walls and floors.
5. Wood screw with plastic anchors at drywall applications without reinforcement and wood screws at applications with reinforcements.

6. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners.
 - a. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless their use is the only means of reinforcing the work adequately to fasten the hardware securely.
 - b. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex nut fasteners.
7. At exterior openings furnish stainless-steel fasteners for exposed fasteners, for example thresholds and screw-applied weatherstripping.

2.02 CONVENTIONAL HINGES

- A. Hinges, electric hinges, and self-closing hinges of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Products to be certified and listed by the following:
 1. Butts and Hinges: ANSI/BHMA A156.1.
 2. Template Hinge Dimensions: ANSI/BHMA A156.7.
 3. Self-Closing Hinges: ANSI/BHMA A156.17.
- C. Butt Hinges:
 1. Hinge weight and size unless otherwise indicated in hardware sets:
 - a. Doors up to 36" wide and up to 1-3/4" thick provide hinges with a minimum thickness of .134" and a minimum of 4-1/2" in height.
 - b. Doors over 36" wide up to 48" wide and up to 1-3/4" thick provide hinges with a minimum thickness of .145" and a minimum of 5" in height.
 - c. Doors greater than 1-3/4" thick provide hinges with a minimum thickness of .190" and a minimum of 5" in height.
 - d. Width of hinge is to be minimum required to clear surrounding trim.
 - e. Doors considered to be low to medium frequency use would require standard weight hinges and medium to high frequency use would require heavy weight hinges.
 2. Base material unless otherwise indicated in hardware sets:
 - a. Exterior Doors: 304 Stainless Steel, Brass or Bronze material.
 - b. Interior Doors: Steel material.
 - c. Fire Rated Doors: Steel or 304 Stainless Steel materials.
 - d. Stainless Steel ball bearing hinges to have stainless steel ball bearings. Steel ball bearings are unacceptable.
 3. Quantity of hinges per door unless otherwise stated in hardware sets:
 - a. Doors up to 60" in height provide 2 hinges.
 - b. Doors 60" up to 90" in height provide 3 hinges.
 - c. Doors 90" up to 120" in height provide 4 hinges.
 - d. Doors over 120" in height add 1 additional hinge per each additional 30" in height or fraction thereof.
 - e. Dutch doors provide 4 hinges up to 120" in height and 1 additional per each additional 30" in height or fraction thereof.
 4. Hinge design and options unless otherwise indicated in hardware sets:
 - a. Hinges are to be of a square corner five-knuckle design, flat button tips and have ball bearings unless otherwise indicated in hardware sets.
 - b. Out-swinging lockable and access-controlled doors are required to have Non-Removable Pins (NRP) to prevent removal of pin while door is in closed position.
 - c. When full width of opening is required, use hinges that are designed to swing door completely

from opening when door is opened to 95 degrees.

D. Acceptable Manufacturers:

1. Hager
2. Stanley
3. McKinney

2.03 ALUMINUM GEARED CONTINUOUS HINGES

- A. Continuous hinges of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Products to be certified and listed by ANSI/BHMA A156.26 Grade 1.
- C. Determine final model numbers and accessories required using the following criteria:

1. Door inset in relation to the frame face.
2. Door thickness and weight.
3. At fire rated openings provide hinges that carry a UL certification, up to and including 90-minute applications for wood doors and up to 3-hour applications for metal doors and provide studs as required by the manufacturer's listings.
4. Provide heavy-duty hinges for high frequency and exterior applications.
5. When full width of opening is required, use hinges that are designed to swing door completely from opening when door is opened to 95 degrees.
6. Size length of hinge to equal the actual door height unless otherwise stated in hardware sets.

D. Material and Design:

1. Base material: Anodized aluminum manufactured from 6063-T6 material; unexposed working metal surfaces be coated with TFE dry lubricant.
2. Bearings:
 - a. Continuous hinges are to have a minimum spacing between bearings of 2-9/16". Typical door from 80" to 84" in height to have a minimum of 32 bearings.

E. Acceptable Manufacturers:

1. Hager
2. Stanley
3. Select

2.04 FLUSH BOLTS AND COORDINATORS

- A. Flush bolts of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Manufacturer to be listed by the following: Auxiliary Hardware: ANSI/BHMI A156.16.
- C. Labeled openings: Provide automatic or constant latching flush bolts per hardware schedule for inactive leaf of pairs of doors. Provide dust proof strikes for bottom bolt.
- D. Non-Labeled openings: Provide two flush bolts for inactive leaf of pairs of doors per hardware schedule. Provide extension rods so that the center line of the top flush bolt is not more than 78" above the finish floor. Provide dust proof strike from bottom bolt.

E. Acceptable Manufacturers:

	Manual Flush Bolt	Auto Flush Bolt	Dust Proof Strike
Hager	283D	292D/295W/296 W	280X
Rockwood	557	1942	570
Trimco	3917	3815	3911

2.05 STANDARD DUTY CYLINDRICAL LOCKS AND LATCHES (GRADE 2 CYLINDRICAL)

- A. Locks and latches of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Product to be certified and listed by following:
 1. ANSI/BHMA A156.2 Series 4000 Certified to Grade 2.

2. UL/c UL Labeled and listed for functions up to 3 hours for single doors up to 48" in width and up to 96" in height.
 3. UL10C/UBC 7-2 Positive Pressure Rated.
- C. Lock and latch function numbers and descriptions of manufacturer's series as listed in hardware sets.
- D. Material and Design:
1. Lock and latch chassis to be zinc dichromate for corrosion resistance.

2. Keyed functions to be of a freewheeling design to help resist against vandalism.
3. Non-handed, field reversible.
4. Thru bolt mounting with no exposed screws.
5. Levers, zinc cast and plated to match finish designation in hardware sets.
6. Roses made of wrought brass or stainless-steel material.

E. Latch and Strike:

1. Stainless steel latch bolt with minimum of 1/2" throw and deadlocking for keyed and exterior functions. Provide 3/4" latch bolt for pairs of fire-rated doors where required by door manufacturer. Standard backset to be 2-3/4" and adjustable faceplate to accommodate a square edge door or a standard 1/8" beveled edge door.
2. Strike is to fit a standard ANSI A115 prep measuring 1-1/4" x 4-7/8" with proper lip length to protect surrounding trim.

F. Options:

1. Doors requiring lead line protection – provide locks with 1/16" lead applied to lock and 1/16" lead wrapped around latch bolt.
2. Provide knurled levers on entry side of doors that are potentially dangerous to visually impaired persons.

G. Acceptable Manufacturers:

Hager	2500 Series
Schlage	AL Series
Best	7K Series

2.06 LIGHT DUTY TUBULAR LOCKS AND LATCHES (GRADE 3 TUBULAR)

- A. Locks and latches of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Product to be certified and listed by following:
1. ANSI/BHMA A156.2 Series 4000 Certified to Grade 3.
 2. ICC/ANSI A117.1.
- C. Lock and latch function numbers and descriptions of manufacturer's series as listed in hardware sets.
- D. Material and Design:
1. Non-handed, field reversible.
 2. Roses are to be of solid brass or stainless-steel material and have a minimum diameter of 2-9/16".

E. Latch and Strike:

1. Latch bolt with minimum of 1/2" throw. Standard backset to be adjustable from 2-3/8" to 2-3/4" and adjustable faceplate to accommodate a square edge door or a standard 1/8" beveled edge door.
2. Strike options include a full lip strike (square or round corners) and a 1-1/8" x 2-3/4" tee strike.

F. Acceptable Manufacturers:

Hager	3300
Schlage	F Series
Approved equal	

2.07 DEADBOLTS (GRADE 2)

- A. Deadbolts of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Manufacturer to be certified by the following:
 - 1. Auxiliary Locks: ANSI/BHMA A156.5 Grade 1.
 - 2. UL/cUL listed for functions up to 3 hours for "A" label.
 - 3. UL10C/UBC 7-2 Positive Pressure Rated.
- C. Deadbolt function numbers and descriptions of manufacturer's series as listed in hardware sets.
- D. Material and Design:
 - 1. Latch bolt 1" throw, brass material with concealed hardened steel roller to prevent sawing or cutting.
 - 2. Non-handed, field reversible.

E. Acceptable Manufacturers:

Hager	3200 Series
Best	8T Series
Sargent	470 Series

2.08 EXIT DEVICES (GRADE 1)

- A. Exit Devices of one manufacturer as listed for continuity of design and consideration of warranty. Touchpad type finish to match balance of door hardware.
- B. Standards: Manufacturer to be certified and/or listed by the following:
1. BHMA Certified ANSI A156.3 Grade 1.
 2. UL/cUL Listed for up to 3 hours for "A" labeled doors.
 3. UL10C/UBC 7-2 Positive Pressure Rated.
 4. UL10B Neutral Pressure Rated.
 5. UL 305 Listed for Panic Hardware.
- C. Material and Design:
1. Provide exit devices with actuators that extend a minimum of one-half of door width.
 2. Where trim is indicated in hardware sets provide the lever design to match design of lock levers.
 3. Exit device to mount flush with door.
 4. Latch bolts:
 - a. Rim device – 3/4" throw, Pullman type with automatic dead-latching, stainless steel
 - b. Surface vertical rod device – Top 1/2" throw, Pullman type with automatic dead-latching, stainless steel. Bottom 1/2" throw, Pullman type, held retracted during door swing, stainless steel.
 5. Fasteners: Wood screws, machine screws, and thru bolts.
- D. Lock and Latch Functions: Function numbers and descriptions of manufacturer's series and lever styles indicated in door hardware sets.

E. Acceptable Manufactures:

Hager	4700 Series	4600 Series
Von Duprin	22 Series	33 Series
Dormakaba	QED100 Series	QED200 Series

2.09 CYLINDERS AND KEYING

- A. Cylinders of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Products to be certified and listed by the following:
1. Auxiliary Locks: ANSI/BHMA A156.5
- C. Cylinders:
1. Provide cylinders matched to the types required for hardware that has a locking function and for keyed electronic functions. Furnish with appropriate collars, cams, and tailpieces to fit and operate associated hardware. Stacking collars is not acceptable, a single collar of proper size is required.
 2. Manufacturer's standard tumbler type, seven-pin IC core and seven-pin conventional core supported by the Hager H series keyway.

3. Manufacturer's standard tumbler type six-pin conventional cylinder.
- D. Keying:
1. Provide a new factory registered key system.
 2. Provide a bitting list to Owner of combinations as established and expand to twenty-five percent for future use or as directed by Owner.

3. Keys to be shipped directly to the Owner's Representative as established during the keying conference.
 - a. Package the keys in individual envelopes, grouped by keyset symbol, and label envelopes with project name, factory registry number, and keyset symbol.

E. Acceptable Manufacturers:

Hager
Schlage
Sargent

2.10 PUSH/PULL PLATES AND BARS

- A. Push/Pull plates and bars of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Manufacturer to be certified by the following:
 1. Architectural Door Trim: ANSI/BHMA A156.6.
 2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).
- C. Push plates: .050" thick, square corner and beveled edges with countersunk screw holes. Width and height as stated in hardware sets.

D. Acceptable Manufacturers:

Hager	30S
Rockwood	70C
Trimco	1001-3

- E. Pull Plates: .050" thick, square corner and beveled edges. Width and height as stated in hardware sets, 3/4" diameter pull, with clearance of 2-1/2" from face of door.

F. Acceptable Manufacturers:

Hager	33J
Rockwood	111-70C
Trimco	1017-3

2.11 CLOSERS (CAST IRON BODY GRADE 1)

- A. Closers of one manufacturer as listed for continuity of design and consideration of warranty, unless otherwise indicated on hardware schedule, comply with manufacturer's recommendations for size of closer, depending on width of door, frequency of use, atmospheric pressure, ADAAG requirement, and fire rating.
- B. Standards: Manufacturer to be certified and or listed by the following:
 1. BHMA Certified ANSI A156.4 Grade 1.
 2. ADA Complaint ANSI A117.1.
 3. UL/c UL Listed up to 3 hours.
 4. UL10C Positive Pressure Rated.
 5. UL10B Neutral Pressure Rated.

C. Material and Design:

1. Provide cast iron non-handed bodies with full plastic covers.
2. Closers will have separated staked adjustable valve screws for latch speed, sweep speed, and backcheck.
3. Provide Tri-Pack arms and brackets for regular arm, top jamb, and parallel arm mounting.
4. One-piece seamless steel spring tube sealed in hydraulic fluid.
5. Double heat-treated steel tempered springs.
6. Precision-machined heat-treated steel piston.
7. Triple heat-treated steel spindle.
8. Full rack and pinion operation.

- D. Mounting:
1. Out-swing doors use surface parallel arm mount closers except where noted on hardware schedule.
 2. In-swing doors use surface regular arm mount closers except where noted on hardware schedule.
 3. Provide brackets and shoe supports for aluminum doors and frames to mount fifth screw.
 4. Furnish drop plates where top rail conditions on door do not allow for mounting of closer and where backside of closer is exposed through glass.
- E. Size closers in compliance with requirements for accessibility (ADAAG). Comply with following maximum opening force requirements.
1. Interior hinged openings: 5.0 lbs.
 2. Fire-rated and exterior openings use minimum opening force allowable by authority having jurisdiction.
- F. Fasteners: Provide self-reaming, self-tapping wood and machine screws, and sex nuts and bolts for each closer.
- G. Acceptable manufacturers:

Hager	5100 Series
LCN	4040XP Series
Sargent	281 Series

2.12 CLOSERS (ALUMINUM BODY GRADE 1)

- A. Closers of one manufacturer as listed for continuity of design and consideration of warranty. Unless otherwise indicated on hardware schedule, comply with manufacturer's recommendations for size of closer, depending on width of door, frequency of use, atmospheric pressure, ADAAG requirements, and fire rating.
- B. Standards: Manufacturer to be certified by the following:
1. BHMA Certified ANSI A156.4 Grade 1.
 2. ADA Complaint ANSI A117.1.
 3. UL/c UL Listed up to 3 hours.
 4. UL10C Positive Pressure Rated.
 5. UL10B Neutral Pressure Rated.
- C. Material and Design:
1. Provide aluminum non-handed bodies with full plastic covers.
 2. Closers will have separate staked adjustable valve screws for latch speed, sweep speed, and backcheck.
 3. Provide Tri-Pack arms and brackets for regular arm, top jamb, and parallel arm mounting.
 4. Double heat-treated steel, tempered springs.
 5. Precision machined heat-treated steel piston.
 6. Triple heat-treated steel spindle.
 7. Full rack and pinion operation.
- D. Mounting:
1. Out-swing doors surface parallel arm mount closers except where noted on hardware schedule.
 2. In-swing doors surface regular arm mount closers except where noted on hardware schedule.
 3. Provide brackets and shoe supports for aluminum doors and frames to mount fifth screw.
 4. Furnish drop plates where top rail conditions on door do not allow for mounting of closer and where backside of closer is exposed through glass.

- E. Size closers in compliance with requirements for accessibility (ADAAG). Comply with following maximum opening force requirements.
1. Interior hinged openings: 5.0 lbs.
 2. Fire-rated and exterior openings are to be adjusted to have minimum opening force allowable by authority having jurisdiction.
- F. Fasteners: Provide self-reaming, self-tapping wood and machine screws, and sex nuts and bolts for each closer.
- G. Acceptable manufacturers:

Hager	5200 Series	5300 Series
Norton	8000 Series	1600 Series
Sargent	1330 Series	1130 Series

2.13 STOPS AND HOLDERS

- A. Stops and holders of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Wall Stops: Provide door stops wherever necessary to prevent door or hardware from striking an adjacent partition or obstruction. Provide wall stops when possible. Door stops and holders mounted in concrete floor or masonry walls have stainless steel machine screws and lead expansion shields.

- C. Products to be certified and listed by the following:

- 1. Auxiliary Hardware: ANSI/BHMA A156.16.

- D. Acceptable Manufacturers:

	Convex	Concave
Hager	232W	236W
Rockwood	406	409
Trimco	1270WV	1270CV

2.14 THRESHOLDS

- A. Thresholds of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Set thresholds for exterior and acoustical openings in full bed of sealant with lead expansion shields and stainless-steel machine screws complying with requirements specified in Division 07 Section "Joint Sealants: Notched in field to fit frame by hardware installer. Refer to Drawings for special details.
- C. Standards: Manufacturer to be certified by the following:
 - 1. Thresholds: ANSI/BHMA A156.21.
 - 2. American with Disabilities Act Accessibility Guidelines (ADAAG).

- D. Acceptable Manufacturers:

Hager	413S/520S
NGP	513/896N
Pemko	271A/2005AV

2.15 DOOR GASKETING AND WEATHERSTRIP

- A. Door gasketing and weather strip of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Provide continuous weather strip gasketing on exterior doors and provide smoke, light, or sound gasketing where indicated on hardware schedule. Provide noncorrosive fasteners for exterior applications.
 - 1. Perimeter gasketing: Apply to head and jamb, forming seal between door and frame.
 - 2. Meeting stile gasketing: Fasten to meeting stiles, forming seal when doors are in closed position.

3. Door bottoms: Apply to bottom of door, forming seal with threshold or floor when door is in closed position.
 4. Sound Gasketing: Cutting or notching for stop mounted hardware not permitted.
 5. Drip Guard: Apply to exterior face of frame header. Lip length to extend 4" beyond width of door.
- C. Products to be certified and listed by the following:
1. Door Gasketing and Edge Seal Systems: ANSI/BHMA A156.22.
 2. BHMA certified for door sweeps, automatic door bottoms, and adhesive applied gasketing.
- D. Smoke-Labeled Gasketing: Comply with NFPA 105 listed, labeled, and acceptable to Authorities Having Jurisdiction, for smoke control indicated.
1. Provide smoke-labeled gasketing on 20-minute rated doors and on smoke rated doors.
- E. Fire-Rated Gasketing: Comply with NFPA 80 listed, labeled, and acceptable to Authorities Having Jurisdiction, for fire ratings indicated.
- F. Refer to Section 08 1416 Wood Doors for Category A or Category B. Comply with UBC 7-2 and UL10C positive pressure where frame applied intumescent seals are required.
- G. Acceptable Manufacturers:

1. Perimeter Gasketing:

	Stop Applied	Adhesive Applied
Hager	891S	726
NGP	135N	5050
Pemko	891S	S88BL

2. Door Bottom Sweeps:

Hager	802S
NGP	B606A
Pemko	18061CNB

2.16 DOOR VIEWER

- A. Door viewer of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Products to be certified and listed by the following:
1. Auxiliary Hardware: ANSI/BHMA A156.16 for L033221.
- C. Design:
1. Adjustable for use on doors 1-3/8" to 2-1/8" thick doors, 9/16" hole required.
 2. One way 200-degree view.
 3. Tamper resistant with a privacy flap.
 4. 90 min. fire rating.

D. Acceptable Manufacturers:

Hager	334V
Rockwood	611 Series
Trimco	621 Series

2.17 PRIVACY DOOR LATCH

- A. Privacy door latch of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Products to be certified and listed by the following:
 - 1. UL Classification as Fire Door Accessory.
 - 2. NFPA 80.
 - 3. ICC/ANSI A117.1
- C. Design:
 - 1. Allows visitor identification, cannot be used to keep door ajar.
 - 2. Does not allow door to be held open.

D. Acceptable Manufacturers:

Hager	277D
Pemko	PDL
Trimco	4017

2.18 SILENCERS

- A. Where smoke, light, or weather seal are not required, provide three silencers per single door frame, two per double door frame and four per Dutch door frame.
- B. Products to be certified and listed by the following:
 - 1. Auxiliary Hardware: ANSI/BHMA A156.16

C. Acceptable Manufacturers:

	Hollow Metal Frame	Wood Frame
Hager	307D	308D
Rockwood	608	609
Trimco	1229A	1229B

2.19 KEY CABINET

- A. Provide key cabinet; surface mounted to wall.
- B. Key control system:
 - 1. Include two sets of key tags, hooks, labels, and envelopes.
 - 2. Contain system in metal cabinet with baked enamel finish.
 - 3. Capacity will be able to hold actual quantities of keys, plus 50 percent.
 - 4. Provide tools, instruction sheets, and accessories required to complete installation.

C. Acceptable Manufacturers:

Lund Equipment
Telkee
HPC

2.20 FINISHES

- A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if within range of approved samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within range of approved samples.
- B. Comply with base material and finish requirements indicated by ANSI/BHMA A156.18 designations in hardware schedule.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine doors and frames, with installers present, for compliance with requirements for installation tolerances, labeled fire- rated construction, wall and floor construction, and other conditions affecting performance.
- B. Where hardware will be installed directly on walls inspect applications for blocking material of sufficient type and size for hardware.
- C. Where existing products will be reused, examine existing door and frame sizes, preps, swings, ratings, and compare to the specified hardware for compatibility and functionality. The hardware set specified should act as guide for design and function. Provide filler plates as needed to fill and repair existing materials. Test any existing to remain hardware for functionality and visually inspect for damage. Note any defective or damaged products as well as noting any code deficiencies and submit issues and estimated costs for direction of how to proceed with repair or replacement.

- D. Notify Architect via a prepared written report and endorsed by installer of any discrepancies between the door schedule, door types, drawings, and scheduled hardware. List conditions detrimental to application, to the proper and timely completion of the work and performance of the hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.02 INSTALLATION

- A. Install hardware using manufacturers' recommended fasteners and installation instructions, at height locations and clearance tolerances that comply with:
 - 1. NFPA 80
 - 2. NFPA 105
 - 3. ICC/ANSI A117.1
 - 4. DHI Publication – Installation Guide for Doors and Hardware
 - 5. Approved shop drawings
 - 6. Approved hardware schedule
- B. Install soffit mounted gaskets prior to other soffit mounted hardware ensuring a continuous seal around the perimeter of the opening without cutting or notching.
- C. Locate surface mounted door closers on stairwell side of stair doors, interior side of exterior openings, or on the room side of openings, unless it is a sterile room.
- D. Locate wall mounted bumper to contact the operating trim. Verify that pushbuttons of locksets do not contact the stop and inadvertently lock the door.
- E. Mount armor, mop, and kick plates flush with the bottom of the door and centered horizontally on the door.
- F. Notch thresholds with no larger than a 1/32-inch gap matching the frame profile. Set in a full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants" forming a tight seal between threshold and mounting surface. Caulk and seal the entire perimeter to prevent water leakage. Remove excess sealants immediately and clean the area thoroughly.
- G. Do not install surface mounted items until finishes have been completed on substrates involved. Set unit level, plumb and true to line location.

3.03 FIELD QUALITY CONTROL

- A. Schedule a final walk through to inspect hardware installation ten (10) business days before final acceptance of the Owner. Visually inspect for proper fasteners and verify that doors open, close, latch properly, and that openings are installed to meet NFPA 80 and ANSI A117.1 requirements. Correct deficiencies, including missing hardware immediately. Provide a written report detailing discrepancies of each opening within five (5) business days of the walk through.
- B. Prior to receiving certificate of occupancy have doors inspected by a Certified Fire and Egress Door Assembly Inspector (CFDAI), as certified by Intertek (ITS), submit a written report to the Owner and Contractor. Doors failing inspection must be adjusted, modified, or replaced to be within appropriate code requirements without delay.

3.04 ADJUSTMENT, CLEANING, AND DEMONSTRATING

- A. Prior to final adjustments, the HVAC system must be completed and balanced. Test that all openings meet ANSI A117.1 for closer opening pressure, closing speed, latching, and hardware operating forces. Replace items that cannot be adjusted to operate freely and smoothly or as intended for application.
- B. Prior to final walk-through inspection, clean adjacent surfaces soiled by hardware installation. Clean finish hardware per manufacturer's instructions after final adjustments have been made. Remove all protection and replace items that cannot be cleaned to manufacturer's level of finish quality.
- C. Demonstration and training will be conducted as per the following sessions. All sessions will be recorded and turned over to the Owner for future use.
 - 1. Hardware Maintenance: Conduct a training class for building maintenance personnel demonstrating the adjustment, operation, and maintenance of ALL hardware. Special tools for finish hardware to be turned over and demonstrated usage at the meeting.
 - 2. Key control system: Train the Owner's designated representative on the key control system demonstrating the permanent file keys, duplicate loaner keys, key receipts, key envelopes, key change identification sheets, bitting lists, tags, and labels. When key management software is provided training will be provided for the setup and usage of the software.

3.05 PROTECTION

- A. Leave manufacturer's protective film intact and, protect exit devices, locks, and surface mounted hardware with kraft paper or bubble wrap. Cover fire labels at painted products that bear a label with magnetic or masking tape. Keep protection in place until time of final cleaning and adjustment.

3.06 HARDWARE SET SCHEDULE

- A. Door hardware items have been placed in sets which are intended to be a guide of design, grade, quality, function, operation, and performance.
 - 1. Review products that may require mounting accessories to meet door, frame, and swing conditions as these final details vary from manufacturer to manufacturer and provide as required.
 - 2. Where additional items of hardware are required for completion of the Work, a written statement of such omission, error, or other discrepancy is required to be submitted to the Architect, prior to bid date for clarification via an addendum.
 - 3. Abbreviations listed below do not appear in the manufacturer's literature, for any other abbreviations refer to manufacturer's literature.:
 - a. LDW = Less than Door Width
 - b. LAR = Length as Required
 - c. QTY = Quantity
 - d. CTC = Centerline to Centerline
 - e. BTB = Back-to-Back mounting

3.07 HARDWARE SCHEDULE

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 01

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
101		1	ALD 3' 0"x7' 0" 2" Elev:E			
		1	ALF 0" 3' 0"x7' 0"			
103		1	ALD 3' 0"x7' 0" 2" Elev:E			
		1	ALF 0" 3' 0"x7' 0"			
001		1	ALD 3' 0"x7' 0" 2" Elev:E			
		1	ALF 0" 3' 0"x7' 0"			

Hardware for Heading#: 01

3 EA	Continuous Hinge	1200-600XHD 83"	Clear	(HC-1) Hager
3 EA	Rim Exit Device	4601RIM-0-36"	US26D	(ED-1) Hager
3 EA	Exit Device Trim	46CE-ARC	US26D	(ET-1) Hager
3 EA	Cylinder	3902	US26D	(CY-1) Hager
3 EA	Surface Closer	5100	ALM	(CL-1) Hager
3 EA	Arm	5955	ALM	(CL-2) Hager
3 EA	Spacer	5113	ALM	(CL-3) Hager
3 EA	Drop Plate	5110	ALM	(CL-4) Hager
3 EA	Threshold	413S x 36"	MIL	(TH-1) Hager
3 EA	Gasketing	802S x 36" x 84"	MIL	(GA-1) Hager

NOTE: WEATHERSTRIP BY ALUMINUM FRAME MANUFACTURER

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 02

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
102					20	
		1	WDD 3' 0"x6' 8" 1 3/4" Elev:G			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
002					20	
		1	WDD 3' 0"x6' 8" 1 3/4" Elev:C			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
003					20	
		1	WDD 3' 0"x6' 8" 1 3/4" Elev:G			
		1	HMF 0" 3' 0"x6' 8" Elev:A			

Hardware for Heading#: 02

9 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
3 EA	Fire Rated Rim Exit	4701RIM-F-36"	US32D	(ED-2) Hager
3 EA	Exit Device Trim	47KP-ARC	US32D	(ET-2) Hager
3 EA	Surface Closer	5300 HDCS	ALM	(CL-5) Hager
3 EA	Arm	5957	ALM	(CL-6) Hager
3 EA	Gasketing	726 17'	S	(GA-3) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 03

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
004		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			

010

1	WDD 3' 0"x6' 8" 1 3/4" Elev:K
1	HMF 0" 3' 0"x6' 8" Elev:A

Hardware for Heading#: 03

6 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
2 EA	Cylindrical Lock Passage Latch	2510 ARC	US26D	(LO-1) Hager
2 EA	Door Stop	241F	US26D	(ST-1) Hager
6 EA	Silencer	307D		(SI-1) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 04

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
005		1	WDD 3' 0"x6' 8" 1 3/4" Elev:F			
		1	HMF 0" 3' 0"x6' 8" Elev:A			

006

1	HMD 3' 0"x6' 8" 1 3/4" Elev:D
1	HMF 0" 3' 0"x6' 8" Elev:A

Hardware for Heading#: 04

6 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
2 EA	Cylindrical Lock Storeroom Lock	2580 ARC	US26D	(LO-2) Hager
2 EA	Door Stop	241F	US26D	(ST-1) Hager
6 EA	Silencer	307D		(SI-1) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 04.1

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
105				LHR		
		1	WDD 3' 0"x6' 8" 1 3/4" Elev:F	LHR		
		1	HMF 0" 3' 0"x6' 8" Elev:A			

Hardware for Heading#: 04.1

3 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
1 EA	Rim Exit Device	4601RIM-0-36"	US26D	(ED-1) Hager
1 EA	Exit Device Trim	46CE-ARC	US26D	(ET-1) Hager
1 EA	Cylinder	3902	US26D	(CY-1) Hager
1 EA	Surface Closer	5100	ALM	(CL-1) Hager
1 EA	Surface Closer	5300 MLT	ALM	(CL-9) Hager
1 EA	Wall Stop	236W	US32D	(ST-2) Hager
1 EA	Gasketing	726 17'	S	(GA-3) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 05

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>

007

1 HMD 3' 0"x6' 8" 1 3/4"
Elev:D

1 HMF 0" 3' 0"x6' 8"
Elev:A

Hardware for Heading#: 05

3 EA	Hinge, Full Mortise	ECBB1101NRP 4-1/2" x 4-1/2"	US32D	(HI-2) Hager
1 EA	Cylindrical Lock Storeroom Lock	2580 ARC	US26D	(LO-2) Hager
1 EA	Surface Closer	5300 PSS	ALM	(CL-7) Hager
1 EA	Arm	5926	ALM	(CL-8) Hager
1 EA	Threshold	413S x 36"	MIL	(TH-1) Hager
1 EA	Gasketing	802S x 36" x 78"	MIL	(GA-2) Hager
1 EA	Gasketing	891S-N x 36" x 80"	MIL	(GA-4) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 06

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
008		1	WDD 3' 0"x6' 8" 1 3/4" Elev:F			
		1	HMF 0" 3' 0"x6' 8" Elev:A			

009

1	WDD 3' 0"x6' 8" 1 3/4" Elev:F
1	HMF 0" 3' 0"x6' 8" Elev:A

Hardware for Heading#: 06

6 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
2 EA	Push Plate	30S-6"x16"	US32D	(PP-1) Hager
2 EA	Pull Plate	33J-4"x16"	US32D	(PP-2) Hager
2 EA	Surface Closer	5300 MLT	ALM	(CL-9) Hager
2 EA	Wall Stop	236W	US32D	(ST-2) Hager
6 EA	Silencer	307D		(SI-1) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 07

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
011		1	WDD 2' 6"x6' 8" 1 3/4" Elev:H			
		1	WDD 2' 6"x6' 8" 1 3/4" Elev:H			
		1	HMF 0" 5' 0"x6' 8" Elev:B			

024

1	WDD 2' 0"x6' 8" 1 3/4" Elev:H
1	WDD 3' 0"x6' 8" 1 3/4" Elev:H
1	HMF 0" 5' 0"x6' 8" Elev:B

Hardware for Heading#: 07

12 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
2 EA	Flush Bolt	283D	US26D	(BO-1) Hager
2 EA	Dust Proof Strike	280X	US26D	(BO-2) Hager
2 EA	Cylindrical Lock Storeroom Lock	2580 ARC	US26D	(LO-2) Hager
4 EA	Silencer	307D		(SI-1) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 08

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
012		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
013		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
014		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
015		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
016		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
017		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
018		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
019		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
020		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
021		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 08

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
022		1	WDD 3' 0"x6' 8" 1 3/4" Elev:K			
		1	HMF 0" 3' 0"x6' 8" Elev:A			

023

1	WDD 3' 0"x6' 8" 1 3/4" Elev:K
1	HMF 0" 3' 0"x6' 8" Elev:A

Hardware for Heading#: 08

36 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
12 EA	Cylindrical Lock Office Lock	2550 ARC	US26D	(LO-3) Hager
12 EA	Wall Stop	236W	US32D	(ST-2) Hager
36 EA	Silencer	307D		(SI-1) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 09

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
104				LHR	20	
		1	WDD 3' 0"x6' 8" 1 3/4" Elev:J	LHR		
		1	HMF 0" 3' 0"x6' 8" Elev:A			

Hardware for Heading#: 09

3 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
1 EA	Fire Rated Rim Exit	4601RIM-F-36" 1-3/4"	US26D	(ED-3) Hager
1 EA	Exit Device Trim	46BE-AUG 1-3/4"	US26D	(ET-3) Hager
1 EA	Surface Closer	5300 MLT	ALM	(CL-9) Hager
1 EA	Wall Stop	236W	US32D	(ST-2) Hager
1 EA	Gasketing	726 17'	S	(GA-3) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 10

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
106					20	
		1	WDD 3' 0"x6' 8" 1 3/4" Elev:F			
		1	HMF 0" 3' 0"x6' 8" Elev:A			

Hardware for Heading#: 10

3 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
1 EA	Cylindrical Lock Storeroom Lock	2580 ARC	US26D	(LO-2) Hager
1 EA	Surface Closer	5300 MLT	ALM	(CL-9) Hager
1 EA	Wall Stop	236W	US32D	(ST-2) Hager
1 EA	Gasketing	726 17'	S	(GA-3) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 11

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
A-01					20	
		6	WDD 3' 0"x6' 8" 1 3/4" Elev:A			
		6	HMF 0" 3' 0"x6' 8" Elev:A			
A.1-01					20	
		1	HMD 3' 0"x6' 8" 1 3/4" Elev:A			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
B-01					20	
		6	HMD 3' 0"x6' 8" 1 3/4" Elev:A			
		6	HMF 0" 3' 0"x6' 8" Elev:A			
C-01					20	
		1	HMD 3' 0"x6' 8" 1 3/4" Elev:A			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
D-01					20	
		1	HMD 3' 0"x6' 8" 1 3/4" Elev:A			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
E-01					20	
		1	HMD 3' 0"x6' 8" 1 3/4" Elev:A			
		1	HMF 0" 3' 0"x6' 8" Elev:A			
F-01					20	
		1	HMD 3' 0"x6' 8" 1 3/4" Elev:A			
		1	HMF 0" 3' 0"x6' 8" Elev:A			

Hardware for Heading#: 11

51 EA	Hinge, Full Mortise	ECBB1100 4-1/2" x 4-1/2"	US26D	(HI-1) Hager
17 EA	Cylindrical Lock Passage Latch	2510 ARC	US26D	(LO-1) Hager
17 EA	Deadbolt	3215	US26D	(LO-4) Hager
17 EA	Surface Closer	5300 PSS	ALM	(CL-7) Hager
17 EA	Arm	5926	ALM	(CL-8) Hager
17 EA	Threshold	413S x 36"	MIL	(TH-1) Hager
17 EA	Gasketing	802S x 36" x 78"	MIL	(GA-2) Hager
17 EA	Gasketing	726 17'	S	(GA-3) Hager
17 EA	Knocker/Viewer	334V	US26D	(OT-1) Hager
17 EA	Viewer	1755	US26D	(OT-2) Hager
17 EA	Privacy Latch	277D	US26D	(OT-3) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 12

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
A-02		6	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		6	WDF 0" 3' 0"x6' 8"			
A-05		6	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		6	WDF 0" 3' 0"x6' 8"			
A.1-02		1	WDD 2' 6"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 2' 6"x6' 8"			
A.1-05		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			
B-02		6	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		6	WDF 0" 3' 0"x6' 8"			
B-05		6	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		6	WDF 0" 3' 0"x6' 8"			
C-02		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			
C-05		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			
D-02		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			
D-05		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			
E-02		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			
E-05		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 12

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
F-02		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			

F-05

1	WDD 3' 0"x6' 8" 1 3/8" Elev:B
1	WDF 0" 3' 0"x6' 8"

Hardware for Heading#: 12

34 EA	Tubular Lock Passage Latch	3310 ARC	US26D	(LO-5) Hager
34 EA	Door Stop	6212	US26D	(ST-3) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 13

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
A-03		6	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		6	WDF 0" 3' 0"x6' 8"			
A.1-03		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			
B-03		6	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		6	WDF 0" 3' 0"x6' 8"			
C-03		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			
D-03		1	WDD 3' 0"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 3' 0"x6' 8"			

Hardware for Heading#: 13

15 EA	Tubular Lock Privacy Lock	3340 ARC	US26D	(LO-6) Hager
15 EA	Door Stop	6212	US26D	(ST-3) Hager

Hardware Schedule

Project ID: Q26-02.06.26-01 GLEN'S FAIR PRICE BLDG - SPEC

Heading #: 14

<u>Opening</u>	<u>Location Description</u>	<u>Qty</u>	<u>Item Description</u>	<u>Handing</u>	<u>Label</u>	<u>Key</u>
A-04		6	WDD 2' 8"x6' 8" 1 3/8" Elev:B			
		6	WDF 0" 2' 8"x6' 8"			
A.1-04		1	WDD 2' 8"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 2' 8"x6' 8"			
B-04		6	WDD 2' 8"x6' 8" 1 3/8" Elev:B			
		6	WDF 0" 2' 8"x6' 8"			
C-04		1	WDD 2' 8"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 2' 8"x6' 8"			
D-04		1	WDD 2' 8"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 2' 8"x6' 8"			
E-04		1	WDD 2' 8"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 2' 8"x6' 8"			
F-04		1	WDD 2' 8"x6' 8" 1 3/8" Elev:B			
		1	WDF 0" 2' 8"x6' 8"			
Hardware for Heading#: 14						
17 EA	Deadbolt	3215		US26D	(LO-4) Hager	
17 EA	Door Stop	6212		US26D	(ST-3) Hager	

SECTION 088300 - MIRRORS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Shop Drawings.
- B. Glazing Publications: Comply with the following published recommendations:
 - 1. GANA's "Glazing Manual" unless more stringent requirements are indicated. Refer to this publication for definitions of glass and glazing terms not otherwise defined in this Section or in referenced standards.
 - 2. GANA Mirror Division's "Mirrors, Handle with Extreme Care: Tips for the Professional on the Care and Handling of Mirrors."

PART 2 - PRODUCTS

2.1 MIRRORS, GENERAL

- A. Manufacturers:
 - 1. Arch Aluminum & Glass Co., Inc.
 - 2. Avalon Glass and Mirror Company.
 - 3. Binswanger Mirror; a division of Vitro America, Inc.
 - 4. D & W Incorporated
 - 5. Donisi Mirror Company.
 - 6. Gardner Glass, Inc.
 - 7. Gilded Mirrors, Inc.
 - 8. Guardian Industries.
 - 9. Head West.
 - 10. Independent Mirror Industries, Inc.
 - 11. Lenoir Mirror Company.
 - 12. Maran-Wurzell Glass & Mirror.
 - 13. National Glass Industries.
 - 14. Stroupe Mirror Co., Inc.
 - 15. Sunshine Mirror; Westshore Glass Corp.
 - 16. Virginia Mirror Company, Inc.
 - 17. Walker Glass Co., Ltd.
- B. Glass Mirrors, General: ASTM C 1503; manufactured using copper-free, low-lead mirror coating process.
- C. Safety Glazing Products: For tempered mirrors, provide products complying with testing requirements in 16 CFR 1201 for Category II materials.

2.2 MATERIALS

- A. Clear Glass: Mirror Select Quality, 6.0-mm nominal thickness.
- B. Mirror Mastic: An adhesive setting compound, asbestos free, produced specifically for setting mirrors and certified by both mirror manufacturer and mastic manufacturer as compatible with glass coating and substrates on which mirrors will be installed.
 - 1. Manufacturers:
 - a. Franklin International; Titebond Division.
 - b. Laurence, C. R. Co., Inc.
 - c. Macco Adhesives; Liquid Nails Division.
 - d. OSI Sealants, Inc.
 - e. Palmer Products Corporation.
 - f. Pecora Corporation.
 - g. Royal Adhesives & Sealants; Gunther Mirror Mastics Division.
 - h. Sommer & Maca Industries, Inc.
 - 2. Low-Emitting Materials: Mastic shall have a VOC content of not more than 70 g/L.

2.3 FABRICATION

- A. Mirror Edge Treatment: Flat polished.
 - 1. Seal edges of mirrors with edge sealer after edge treatment to prevent chemical or atmospheric penetration of glass coating.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide a minimum air space of 1/8 inch (3 mm) between back of mirrors and mounting surface for air circulation between back of mirrors and face of mounting surface.
- B. Wall-Mounted Mirrors: Install mirrors with mastic and mirror hardware. Attach mirror hardware securely to mounting surfaces with mechanical fasteners installed so heads do not impose point loads on backs of mirrors.
 - 1. Top and Bottom Aluminum J-Channels: Provide setting blocks 1/8 inch (3 mm) thick by 4 inches (100 mm) long at quarter points.
 - 2. Mirror Clips: Place a felt or plastic pad between mirror and each clip. Locate clips so they are symmetrically placed and evenly spaced.
 - 3. Apply mastic to comply with mastic manufacturer's written instructions for coverage and to allow air circulation between back of mirrors and face of mounting surface.

- C. Remove nonpermanent labels, and clean surfaces immediately after installation.

END OF SECTION 088300

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
- B. STC-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 90 and classified per ASTM E 413 by a qualified independent testing and inspecting agency.

2.2 PANEL PRODUCTS

- A. Provide in maximum lengths available to minimize end-to-end butt joints.
- B. Interior Gypsum Board: ASTM C 1396/C 1396M, in thickness indicated, with manufacturer's standard edges. Type X and Type C as required for specific fire-resistance-rated assemblies and Sag-resistant type for ceiling surfaces.

- 1. Manufacturers:

- a. American Gypsum.
- b. CertainTeed Corp.
- c. Georgia-Pacific Gypsum LLC.
- d. Lafarge North America Inc.
- e. National Gypsum Company.
- f. USG Corporation.

- C. Water-Resistant Gypsum Backing Board: ASTM C 1396/C 1396M, in thickness indicated. Type X or Type C where required for fire-resistance-rated assemblies and where indicated.

- 1. Manufacturers:

- a. American Gypsum.
- b. CertainTeed Corp.
- c. Georgia-Pacific Gypsum LLC.

- d. Lafarge North America Inc.
- e. USG Corporation.

D. Cementitious Backer Units: ANSI A118.9, ASTM C 1288, or ASTM C 1325.

1. Products:

- a. CertainTeed Corp.; FiberCement BackerBoard.
- b. James Hardie Building Products, Inc.; Hardiebacker
- c. National Gypsum Company, Permabase Cement Board.
- d. USG Corporation; DUROCK Cement Board.

2.3 ACCESSORIES

A. Trim Accessories: ASTM C 1047, formed from galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet. For exterior trim, use accessories formed from hot-dip galvanized-steel sheet, plastic, or rolled zinc.

- 1. Provide cornerbead at outside corners unless otherwise indicated.
- 2. Provide LC-bead (J-bead) at exposed panel edges.
- 3. Provide control joints where indicated.

B. Aluminum Accessories: Extruded-aluminum accessories indicated with baked-enamel finish, AA-C12C42R1x.

1. Manufacturers:

- a. Fry Reglet Corp.
- b. Gordon, Inc.
- c. Pittcon Industries.

C. Joint-Treatment Materials: ASTM C 475/C 475M.

- 1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.
- 2. Joint Compounds: Drying-type, ready-mixed, all-purpose compounds.
- 3. Cementitious Backer Unit Joint-Treatment Materials: Products recommended by cementitious backer unit manufacturer.

D. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

- 1. Adhesive shall have a VOC content of 50 g/L or less.

E. Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining latex sealant complying with ASTM C 834.

- 1. Sealants shall have a VOC content of 250 g/L or less.

F. Sound-Attenuation Blankets: ASTM C 665, Type I (unfaced).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install gypsum board to comply with ASTM C 840.
 - 1. Isolate gypsum board assemblies from abutting structural and masonry work. Provide edge trim and acoustical sealant.
 - 2. Single-Layer Fastening Methods: Fasten gypsum panels to supports with screws.
 - 3. Multilayer Fastening Methods: Fasten base layers and face layer separately to supports with screws.
- B. Install cementitious backer units to comply with ANSI A108.11.
- C. Fire-Resistance-Rated Assemblies: Comply with requirements of listed assemblies.
- D. Finishing Gypsum Board: ASTM C 840.
 - 1. At concealed areas, unless a higher level of finish is required for fire-resistance-rated assemblies, provide Level 1 finish: Embed tape at joints.
 - 2. At substrates for tile, provide Level 2 finish: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges.
 - 3. Unless otherwise indicated, provide Level 4 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges.
- E. Cementitious Backer Units: Finish according to manufacturer's written instructions

END OF SECTION 092900

SECTION 093000 - TILING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Samples.
- B. Obtain tile of each type and color or finish from same production run for each contiguous area
- C. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling ceramic tile packages.

PART 2 - PRODUCTS

2.1 CERAMIC TILE

- A. Ceramic tile that complies with Standard grade requirements in ANSI A137.1, "Specifications for Ceramic Tile."
- B. Apartment Unit - Tile Type CT-1: Glazed, ceramic floor tile.
 - 1. Manufacturers:
 - a. Dal-Tile International Inc.
 - b. Core Fundamentals – Prime.
 - 2. Face Size: 2x2 inches.
 - 3. Finish: Mat, opaque glaze.
 - 4. Color and Pattern: Mosaic Grey KC04.
 - 5. Grout Color: As selected by Architect and approved by the Owner.
 - 6. Trim Units: Coordinated with sizes and coursing of adjoining flat tile and matching characteristics of adjoining flat tile:
 - a. Base for Thin-Set Mortar Installations: 3x10 wall bullnose.
 - b. External Corners for Thin-Set Mortar Installations: Surface bullnose.
 - c. Internal Corners: Field-buttet square corners. For coved base and cap use angle pieces designed to fit with stretcher shapes.
- C. Public Restroom - Tile Type CT-2: Glazed, ceramic floor tile.
 - 1. Manufacturers:
 - a. Dal-Tile International Inc.
 - b. Core Fundamentals – Prime.
 - 2. Face Size: 12x12 inches.
 - 3. Finish: Mat, opaque glaze.
 - 4. Color and Pattern: As selected by Architect and approved by the Owner.
 - 5. Grout Color: As selected by Architect and approved by the Owner.
- D. Public Restroom - Tile Type CT-3: Glazed, ceramic wall tile.
 - 1. Manufacturers:
 - a. Dal-Tile International Inc.
 - b. Core Fundamentals – Prime.

2. Face Size: 12x24 inches.
3. Finish: Mat, opaque glaze.
4. Color and Pattern: As selected by Architect and approved by the Owner.
5. Grout Color: As selected by Architect and approved by the Owner.

2.2 THRESHOLDS

- A. Aluminum Threshold
 1. Schluter, ADA compliant.

2.3 INSTALLATION MATERIALS

- A. Low-Emitting Materials: Adhesives and fluid-applied waterproofing membranes shall have a VOC content of 65 g/L or less.
- B. Waterproofing Membranes for Thin-Set Installations: ANSI A118.10, fabric-reinforced liquid-latex or elastomeric polymer product.
- C. Setting and Grouting Materials: Comply with material standards in ANSI's "Specifications for the Installation of Ceramic Tile" that apply to materials and methods indicated.
 1. Thin-Set Mortar Type: Latex-portland cement.
 - a. Manufacturers:
 - 1) Bonsal American; an Oldcastle company.
 - 2) Bostik, Inc.
 - 3) Laticrete International, Inc.
 - 4) MAPEI Corporation.
 - b. Coordinate setting material with recommendation by membrane manufacturer.
 2. Grout Type: Polymer modified.
 - a. Manufacturers:
 - 1) Bonsal American; an Oldcastle company.
 - 2) Bostik, Inc.
 - 3) Laticrete International, Inc.
 - 4) MAPEI Corporation.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with TCA's "Handbook for Ceramic Tile Installation" for TCA installation methods specified in tile installation schedules. Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
 1. For installations indicated below, follow procedures in ANSI's "Specifications for the Installation of Ceramic Tile" for providing 95 percent mortar coverage.
 - a. Tile floors in wet areas.

- B. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- C. Lay tile in grid pattern unless otherwise indicated. Align joints where adjoining tiles on floor, base, walls, and trim are the same size.
- D. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot toward drains.
- E. Install waterproofing to comply with ANSI A108.13.
- F. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.
- G. Interior Floor Tile Installation Method(s):
 - 1. Over Waterproof Membranes on Concrete Subfloors: TCA F122 (thin-set mortar).
- H. Interior Wall Tile Installation Method(s):
 - 1. Over Wood or Metal Studs or Furring: TCA W244C-11 (ceramic tile on min. 1/2" cement backer board).
- I. Apply grout sealer to tile areas per manufacturer's instructions.

END OF SECTION 093000

TILE SECTION 093050 - SETTING MATERIALS AND ACCESSORIES

GENERAL

1.1 SECTION INCLUDES

- A. Finishing and edge-protection profiles for walls and countertops.
- B. Movement joint and cove-shaped profiles.
- C. Uncoupling membrane.
- D. Waterproofing Membrane.
- E. Floor drain, with integrated bonding flange.
- F. Shower waterproofing: prefabricated substrates, waterproofing membrane, floor drain with integrated bonding flange, and sealant.
- G. Setting materials: adhesives, mortars, grouts, and sealants.

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 06 10 00 - Rough Carpentry.
- C. Section 07 90 00 - Joint Protection.
- D. Section 09 29 00 - Gypsum Board.
- E. Section 09 30 00 - Tiling.
- F. Section 09307 - Tile Shower Components and Waterproofing Membrane. Shower trays, curbs, ramps, bench, niche, sealing compound, waterproofing membrane, drainage panels, drainage membrane compatible with floor drains.
- G. Section 10 26 13 - Corner Guards.
- H. Section 22 30 00 - Plumbing Equipment.

1.3 REFERENCES

CSA B79-08: Floor, Area, and Shower Drains, and Cleanouts for Residential Construction.

- B. IAPMO IGC 195: Interim Guide Criteria for Floor Drain with Integrated Bonding Flange.
- C. Tile Council of North America (TCNA) Handbook for Ceramic Tile Installation.
- D. Terrazzo, Tile and Marble Association of Canada (TTMAC) Specification Guide 09300 Tile Installation Manual.

- E. American National Standard Specifications for the installation of ceramic tile A108 / A118 / A136.1.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) long, representing actual product, color, and finish.
- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum five years experience.
- B. Source Limitations for Setting Materials and Accessories: Obtain product of a uniform quality for each application condition from a single manufacturer.

Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

- 1. Finish areas designated by Architect.
- 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
- 3. Refinish mock-up area as required to produce acceptable work.

Preinstallation Conference: Conduct conference at the Project site.

- 1. Convene one week prior to commencing work of this section.
- 2. Require attendance of installation material manufacturer, tile supplier, tile installer and installers of related work. Review installation procedures and coordination required with related work.
- 3. Meeting agenda includes but is not limited to:
 - a. Surface preparation.
 - b. Tile and installation material compatibility.
 - c. Edge protection, transition and pre-fabricated movement joint profiles.
 - d. Waterproofing techniques.
 - e. Crack isolation techniques.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture. Do not deliver until after wet work is complete and dry.
- C. Store materials in a dry, warm, ventilated weathertight location.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 COORDINATION

- A. Coordinate Work with other operations and installation of floor finish materials to avoid damage to installed materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Schluter Systems, L.P., 194 Pleasant Ridge Road, Plattsburgh, NY 12901-5841. ASD. Tel: (800) 472-4588. Fax (800) 477-9783. E-mail: specassist@schluter.com. Web: www.schluter.com.
- B. Jason Eckard, Schluter Systems Commercial Manager Mid Atlantic, jeckard@schluter.com, 410-999-4490
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

2.2 FINISHING AND EDGE-PROTECTION PROFILES FOR WALLS AND COUNTERTOPS

- A. Schluter-QUADEC
 - 1. Description: profile with square visible surface, integrated trapezoid-perforated anchoring leg, and integrated grout joint spacer.
 - 2. Corners:
 - a. Provide with matching inside corners.
 - b. Provide with matching outside corners.
 - c. Provide with internal connectors.
 - 3. Material and Finish:
 - a. AT - Satin Nickel Anodized Aluminum.
 - 1) Height as required to coordinate with tile selection and setting system selected.

2.3 MOVEMENT JOINTS AND COVE-SHAPED PROFILES

- A. Schluter-DILEX-EKE
 - 1. Description: profile with integrated rigid, recycled PVC trapezoid-perforated anchoring legs, connected at a 90-degree angle by a 3/16 inch (5 mm) wide soft CPE movement zone that forms the visible surface.
 - 2. Movement Zone Color:
 - a. SP - Sand Pebble.
 - 1) Height as required to coordinate with tile selection and setting system selected.
- B. Schluter-DILEX-AHK
 - 1. Description: anodized aluminum profile with integrated trapezoid-perforated anchoring legs, connected at a 90-degree angle by a cove-shaped section

- with 3/8 inch (10 mm) radius that forms the visible surface.
- 2. Corners:
 - a. Provide with matching inside corners.
 - b. Provide with matching outside corners.
 - c. Provide with matching end caps.
 - d. Provide with matching connectors.
- 3. Material and Finish:
 - a. AT - Satin Nickel Anodized Aluminum.
 - 1) Height as required to coordinate with tile selection and setting system selected.

2.4 UNCOUPLING MEMBRANE

- A. Schluter-DITRA
 - 1. Description: 1/8 inch (3 mm) thick, orange, high-density polyethylene membrane with a grid structure of 1/2 inch by 1/2 inch (12 mm by 12 mm) square cavities, each cut back in a dovetail configuration, and a polypropylene anchoring fleece laminated to its underside. Conforms to definition for uncoupling membranes in the Tile Council of North America Handbook for Ceramic Tile Installation and is listed by cUPC to meet or exceed the requirements of the "American national standard specifications for load bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone installation A118.10 and is listed by cUPC, and is evaluated by ICC-ES (see Report No. ESR-2467).
 - 2. Waterproofing seaming membrane:
 - a. Provide KERDI BAND Seams and Corners material 0.004 inch (0.1 mm) thick, orange polyethylene membrane, with polypropylene fleece laminated on both sides.

2.5 WATERPROOFING MEMBRANE

- A. Schluter-KERDI
 - 1. Description: 0.008 inch (0.2 mm) thick, orange polyethylene membrane, with polypropylene fleece laminated on both sides, which is listed by cUPC to meet or exceed requirements of the "American national standard specifications for load bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone installation A118.10 and is listed by cUPC, and is evaluated by ICC-ES (see Report No. ESR-2467).
 - 2. Corners and seals:
 - a. Provide matching preformed inside corners.
 - b. Provide matching preformed outside corners.
 - c. Provide matching preformed pipe seals.
 - d. Provide matching preformed mixing valve seals.
- B. Schluter-KERDI-BOARD-SN
 - 1. Description: Prefabricated waterproof niche, constructed of rigid extruded polystyrene foam building element panel, with reinforcement material and polypropylene fleece webbing laminated on both sides for thin-set ceramic tile and dimension stone Installations.
 - 2. Size:
 - a. KB 12 SN 305 305 A - 12 inches by 12 inches by 3-1/2 inches (305 mm by 305 mm by 89 mm)

- b. Installation height to comply with ADA standards.

2.6 WATERPROOF BUILDING PANEL FOR CERAMIC AND STONE TILE

A. Schluter-KERDI-BOARD

- 1. Description: Rigid extruded polystyrene foam building element panel, with reinforcement material and polypropylene fleece webbing laminated on both sides for thin-set ceramic tile and dimension stone Installations.
- 2. Panel Thickness:

Thickness as required.

2.7 SETTING MATERIALS

A. Schluter-ALL SET Modified Thin Set Mortar.

- 1. Description: specialized sag-resistant modified thin-set mortar specifically formulated for use with Schluter membranes and boards. It is engineered for use both under and over all DITRA and KERDI products. ALL-SET is suitable for use with ceramic, porcelain, and stone tile, including large and heavy tile, in conjunction with Schluter-Systems' uncoupling and waterproofing membranes. Meets the requirements of ANSI A118.4T, A118.11, and A118.15T.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 096500 - RESILIENT FLOORING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Samples.
- B. Extra Materials:
 - 1. Resilient Floor Tile: Deliver to Owner one box for every 50 boxes or fraction thereof, of each type and color of resilient floor tile installed.

PART 2 - PRODUCTS

2.1 RESILIENT BASE

- A. Manufacturers:
 - 1. Armstrong World Industries, Inc.
 - 2. Burke Mercer Flooring Products; Division of Burke Industries, Inc.
 - 3. Endura Rubber Flooring; Division of Burke Industries, Inc.
 - 4. Flexco, Inc.
 - 5. Johnsonite.
 - 6. Roppe Corporation, USA.
- B. Color and Pattern: As selected by Architect from manufacturer's standard colors.
- C. ASTM F 1861, Type TV (vinyl).
- D. Group (Manufacturing Method): I (solid).
- E. Style: Cove (base with toe).
- F. Minimum Thickness: 0.125 inch.
- G. Height: 4 inches.
- H. Lengths: coils in manufacturer's standard lengths.
- I. Outside Corners: preformed.
- J. Inside Corners: preformed.
- K. Finish: Satin.

2.2 RESILIENT STAIR ACCESSORIES

A. Manufacturers:

1. Burke Mercer Flooring Products; Division of Burke Industries, Inc.
2. Endura Rubber Flooring; Division of Burke Industries, Inc.
3. Flexco, Inc.
4. Johnsonite.
5. Mondo Rubber International, Inc.
6. Roppe Corporation, USA.
7. VPI, LLC; Floor Products Division.

B. Color and Pattern:

C. Treads: ASTM F 2169, Type TV (vinyl).

1. Surface Design:
 - a. Class 2, Pattern: Raised-rib design with abrasive strips.
2. Nosing Style: Round.
3. Nosing Height: 2 inches (50.8 mm).
4. Thickness: 1/4 inch (6 mm) and tapered to back edge.
5. Size: Lengths and depths to fit each stair tread in one piece.

D. Risers: Smooth, flat, coved-toe risers, 7 inches (177.8 mm) high by length matching treads and of same manufacturer and material as treads.

1. Thickness: 0.125 inch (3.2 mm).

E. Stringers: Of same thickness as risers, height and length after cutting to fit risers and treads and to cover stair stringers, and of same manufacturer and material as treads.

2.3 RESILIENT MOLDING ACCESSORY

A. Manufacturers:

1. Burke Mercer Flooring Products; Division of Burke Industries, Inc.
2. Flexco, Inc.
3. Johnsonite.
4. R.C.A. Rubber Company (The).
5. Roppe Corporation, USA.
6. VPI, LLC; Floor Products Division.

B. Color: As selected by Architect from manufacturer's standard colors.

C. Description: Reducer strip for resilient floor covering.

D. Material: Vinyl.

2.4 VINYL PLANK FLOORING

- A. Products:
 - 1. Mohawk Industries, Inc.; Portico Collection.
 - 2. Shaw Floors: Mantua Plus.
 - 3. Cobalt Surfaces; Katanga Collection
 - 4. Armstrong; Luxe Plank
 - 5. Johnsonite; ID Premier
- B. Color and Pattern: As selected by Architect from manufacturer standard range and approved by Owner.
- C. Thickness: 2 mm
- D. Wear Layer: 12 mil
- E. Width: 6 inches.
- F. Length: 48 inches.
- G. Floor Score Certified.
- H. 15-year warranty.
- I. Finish: PVC.
- J. Installation Method: Adhesive.

2.5 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement- or blended hydraulic cement-based formulation provided or approved by flooring manufacturer for applications indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Prepare concrete substrates according to ASTM F 710. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
- B. Prepare gypcrete with manufacturer approved primer / sealer.
- C. Match tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged. Lay tiles with grain running in one direction.
- D. Lay out tiles so tile widths at opposite edges of room are equal and are at least one-half of a tile.

- E. Match tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged. Lay Vinyl Plank Flooring tiles with grain running in one direction.
- F. Install reducer strips at edges of floor coverings that would otherwise be exposed.

END OF SECTION 096500

SECTION 096800 - CARPETING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Samples.
- B. Extra Materials: Deliver to Owner full-width carpet and carpet tiles equal to 5 percent of each type and color installed, packaged with protective covering for storage.

PART 2 - PRODUCTS

2.1 CARPET TILE – CPT 1 (Common Areas)

- A. Basis-of-Design Product: ShawContract; Couture Collection, Dissolve Tile 59566 or a comparable product of one of the following:
 - 1. Mohawk
 - 2. Armstrong
 - 3. Lees
- B. Fiber Content: 100 percent Eco Solution Q Nylon
- C. Face Construction: Tufted Cut-and-loop pile.
- D. Tufted Weight: 38 oz./sq. yd. for finished carpet tile.
- E. Primary Backing: EcoWorx
- F. Size: 24" by 24" inches
- G. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm per ASTM E 648.
- H. Traffic Classification: Severe.
- I. Emissions: Provide carpet that complies with testing and product requirements of CRI's "Green Label Plus" program. Cradle to Cradle.

2.2 INSTALLATION ACCESSORIES

- A. Carpet Adhesives: Product that complies with flammability requirements for installed carpet and is recommended by carpet manufacturer for conditions indicated.

1. Low-Emitting Materials: Adhesives shall have a VOC content of 50 g/L or less.
- B. Carpet Tile Adhesives: Pressure-sensitive type that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for conditions indicated for releasable installation.
 1. Low-Emitting Materials: Adhesives shall have a VOC content of 50 g/L or less.
- C. Seam Adhesive: Hot-melt adhesive tape or similar product recommended by carpet manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with CRI 104.
- B. Carpet Installation Method: Direct glue-down
 1. Maintain uniformity of carpet direction and lay of pile. At doorways, center seams under door in closed position. Bind or seal cut edges as recommended by carpet manufacturer.
 2. Install pattern parallel to walls and borders.
- C. Carpet Tile Installation Method: As recommended by manufacturer.
 1. Install borders parallel to walls.
- D. No "T" seams except in closets
- E. No seams in heavily trafficked areas.

END OF SECTION 096800

SECTION 099000 - PAINTING AND COATING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals:
 - 1. Product Data. Include printout of MPI's "MPI Approved Products List" with product highlighted.
 - 2. Samples.
- B. Mockups: Full-coat finish Sample of each type of coating, color, and substrate, applied where directed.
- C. Extra Materials: Deliver to Owner 5 gal. of each color and type of finish coat paint used on Project, in containers, properly labeled and sealed.
- A. Manufacturer's Warranty: Provide 10-year manufacturer's warranty from Sherwin-Williams upon completion of the project. Contact Tom Schwartz from Sherwin-Williams at thomas.m.schwartz@sherwin.com for warranty paperwork prior to application of coatings specified within section 055200 METAL RAILINGS 2.5B and section 09900 PAINTING AND COATING Part 3.3C

PART 2 - PRODUCTS

2.1 PAINT

- A. Manufacturers:
 - 1. Sherwin-Williams Company (The).
- B. MPI Standards: Provide materials that comply with MPI standards indicated and listed in its "MPI Approved Products List."
 - 1. Exterior Painting Materials:
 - a. Primer, Bonding, Water Based: MPI #17.
 - b. Primer, Galvanized, Water Based: MPI #134.
 - c. Primer, Latex: MPI #6.
 - d. Latex, Exterior Flat (Gloss Level 1): MPI #10.
 - e. Latex, Exterior Semigloss (Gloss Level 5): MPI #11.
 - 2. Interior Painting Materials:
 - a. Primer Sealer, Latex: MPI #50.
 - b. Primer, Latex, for Interior Wood: MPI #39.
 - c. Primer, Bonding, Water Based: MPI #17.
 - d. Primer, Galvanized, Water Based: MPI #134.

- e. Latex, Institutional Low Odor/VOC, Flat (Gloss Level 1): MPI #143.
 - f. Latex, Institutional Low Odor/VOC, (Gloss Level 2): MPI #144.
 - g. Latex, Institutional Low Odor/VOC, Semigloss (Gloss Level 5): MPI #147.
- C. Material Compatibility: Provide materials that are compatible with one another and with substrates.
 - 1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- D. Use interior paints and coatings that comply with the following limits for VOC content:
 - 1. Flat Paints and Coatings: 0 g/L.
 - 2. Nonflat Paints, Coatings: 150 g/L.
 - 3. Primers, Sealers, and Undercoaters: 200 g/L.
 - 4. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
- E. Colors: As selected by Architect from full range of manufacturer colors and approved by the Owner.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove hardware, lighting fixtures, and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.
- C. Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.

3.2 APPLICATION

- A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Paint exposed surfaces unless otherwise indicated.
 - 1. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces.
 - 2. Paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint the back side of access panels.
 - 4. Color-code mechanical piping in accessible ceiling spaces.
 - 5. Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise indicated.

6. Paint bottom, top and all other sides of doors.
- C. Apply paints according to manufacturer's written instructions.
 1. Use brushes only for exterior painting and where the use of other applicators is not practical.
 2. Use rollers for finish coat on interior walls and ceilings.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
 1. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

3.3 EXTERIOR PAINT APPLICATION SCHEDULE

- A. Plastic Trim:
 1. Low-Sheen Latex: Two coats over (water-based) bonding primer: MPI EXT 6.8A.
- B. Exterior Fiber Cement Board:
 1. Flat Latex: Two coats: MPI EXT 9.2A.
 2. Basis of Design: Sherwin Williams A-100 Exterior Latex Flat
- C. Steel:
 1. Semi-Gloss Hi-Solids Polyurethane : Two coats over epoxy primer
 2. Prime Coat: S-W Recoatable Epoxy Primer, B67-5 Series (6.0 mils wet, 4.0 mils dry)
 3. Intermediate Coat: Same as Finish Coat
 4. Finish Coat: S-W Hi-Solids Polyurethane, B65-350 Series (4.5 mils wet, 3.0 mils dry)
 5. Provide a minimum 10-year warranty.

3.4 INTERIOR PAINT APPLICATION SCHEDULE

- A. Wood: Including wood trim and doors.
 1. Semigloss Institutional Low-Odor/VOC Latex: Two coats over latex primer for wood: MPI INT 6.3V.
 2. Basis of Design: Sherwin Williams, ProMar 200 Zero VOC Interior Latex Semi-Gloss.
- B. Fiberglass and Plastic:

1. Semigloss Latex: Two coats over (water-based) bonding primer: MPI INT 6.7A.
- C. Gypsum Board:
1. Semigloss Institutional Low-Order/VOC Latex: Two coats over low odor/VOC primer/sealer: MPI INT 9.2A.
 2. Satin Institutional Low-Odor/VOC Latex: Two coats over low odor/VOC primer/sealer: MPI INT 9.2M.
 3. Basis of Design for Bath Area Walls: Sherwin Williams, ProMar 200 Zero VOC Interior Latex Semi-Gloss.
 4. Basis of Design for Walls: Sherwin Williams, ProMar 200 Zero VOC Interior Latex Eg-Shel.
 5. Basis of Design for Ceilings: Sherwin Williams, Style Perfect Interior Latex Flat Ceiling Paint.

END OF SECTION 099000



**THE SHERWIN-WILLIAMS COMPANY
TEN (10) YEAR LIMITED WARRANTY
MATERIALS ONLY**

This Limited Warranty is issued by The Sherwin-Williams Company ("SW") to Insert name and address of Owner ("Owner") for the Coating System applied by Owner's painting contractor to a Suitable Substrate at the Project.

1. **LIMITED WARRANTY.** In the event that a Covered Warranty Claim occurs during the Warranty Period, SW shall supply the replacement coatings necessary to repair such Covered Warranty Claim.

2. **SCOPE OF WARRANTY.** This Limited Warranty is issued by SW to Owner for the Coating System purchased by Owner from SW and applied to a Suitable Substrate at the Project; provided, however, in the event that the Coating System used on the Project is purchased from SW by Owner's painting contractor rather than by Owner directly, SW and Owner acknowledge and agree that this Limited Warranty shall be for the benefit of Owner.

3. **CONDITIONS OF WARRANTY.** SW's obligation to supply replacement coatings pursuant to this Limited Warranty is contingent upon the following conditions being satisfied. The failure of Owner and/or Owner's painting contractor to comply with any of the conditions specified in this Paragraph 3 shall relieve SW of any liability under this Limited Warranty.

(a) Owner and/or Owner's painting contractor shall obtain written specifications and instructions from SW prior to the application of the Coating System and the Owner's painting contractor shall apply the Coating System in strict accordance with such specifications and instructions.

(b) The specifications and instructions shall be followed in all respects with regard to storage, product handling, surface preparation, application and other requirements.

(c) Owner has complete responsibility for ensuring that the Owner's painting contractor complies fully with such specifications and instructions, notwithstanding periodic visits to the Project by any representative of SW and notwithstanding any representations made by any representative of SW to the contrary.

(d) Owner and Owner's painting contractor shall maintain application records to assist SW in evaluating the validity of any claim made by Owner under this Limited Warranty.

(e) It shall be the responsibility of Owner and/or Owner's painting contractor to perform repairs on the Coating System at the Project if a defect is discovered which is not the responsibility of SW pursuant to this Limited Warranty. Such repairs shall be made by Owner, at the expense of Owner and/or Owner's painting contractor. All repairs shall be made by using only those products satisfactory to SW and in accordance with repair specifications supplied by SW.

(f) Owner shall submit all claims pursuant to this Limited Warranty in accordance with Paragraph 4 of this Limited Warranty.

(g) Owner shall have made full payment to SW for the Coating System under this Limited Warranty.

4. **CLAIMS.** To assert any claim under this Limited Warranty, Owner shall notify SW in writing within thirty (30) days after Owner has actual or constructive notice of an alleged Covered Warranty Claim. Such claim shall be sent to: The Sherwin-Williams Company, Insert SW District Office and address, ATTENTION: District Manager. All claims shall include proof

of purchase and shall provide details explaining the nature of the claim and the date of detection. Owner waives any claims not made in this manner during the Warranty Period. SW shall have a full and complete opportunity to inspect any alleged Covered Warranty Claim and review any records concerning the alleged Covered Warranty Claim.

5. **WARRANTY PERIOD APPLICABLE TO A REPAIR.**

The Warranty Period shall not be extended by the repair of any Covered Warranty Claim pursuant to this Limited Warranty. Any replacement coatings furnished by SW pursuant to this Limited Warranty shall be covered by the terms of this Limited Warranty for the remaining term of the original Warranty Period provided that such replacement coatings are applied in accordance with SW's specifications and instructions.

6. **EXCLUSIVE REMEDY.**

(a) **THE LIMITED WARRANTY PROVIDED HEREIN IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING THE QUALITY AND/OR THE PERFORMANCE OF THE COATING SYSTEM. EXCEPT AS EXPRESSLY PROVIDED IN THIS LIMITED WARRANTY, SW MAKES NO WARRANTIES OF ANY KIND RELATING TO THE COATING SYSTEM AND/OR THE PERFORMANCE THEREOF AND SW DISCLAIMS ALL WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY CONTAINED ON THE PAINT CONTAINER LABEL AND/OR OTHER LITERATURE OF SW. THIS LIMITED WARRANTY IS NOT A WARRANTY BY SW TO OWNER CONCERNING THE APPLICATION OF THE COATING SYSTEM AND OWNER ACKNOWLEDGES AND AGREES THAT IF OWNER HAS ANY CLAIM FOR IMPROPER APPLICATION OF THE COATING SYSTEM OWNER SHALL RESOLVE SUCH CLAIM DIRECTLY WITH THE PARTY WHO APPLIED THE COATING SYSTEM.**

(b) **SW'S ENTIRE LIABILITY RELATING IN ANY MANNER TO THIS LIMITED WARRANTY SHALL BE LIMITED EXCLUSIVELY TO PROVIDING REPLACEMENT COATINGS TO REPAIR THE COVERED WARRANTY CLAIM TO THE EXTENT PROVIDED IN THIS LIMITED WARRANTY. SW SHALL IN NO EVENT BE LIABLE TO OWNER OR OWNER'S PAINTING CONTRACTOR, OR TO ANY PERSON CLAIMING THROUGH OWNER OR OWNER'S PAINTING CONTRACTOR, WHETHER IN CONTRACT, TORT, OR STRICT PRODUCT LIABILITY, FOR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS, LOSS OF USE, DEMURRAGE, OR PENALTIES, ARISING FROM ANY CAUSE WHATSOEVER.**

7. **ASSIGNMENT.** This Limited Warranty may not be transferred or assigned by Owner.

8. **DEFINITIONS.** The following terms when used in this Limited Warranty shall have the meanings set forth below.

(a) "Coating System" shall mean the paint system consisting of Insert full name of paint including primer--must be at least 2 coats.

(b) "Covered Warranty Claim" shall mean a contiguous area of five percent (5%) or more, per year, on a cumulative basis, of the Coating System applied to a Suitable Substrate at the Project that is:

- i. peeling; and/or
- ii. blistering

but does not include any other defect or damage including, but not limited to, any defect or damage resulting from:

- (1) the failure of Owner and/or Owner's painting contractor to follow and adhere to all of the specifications and instructions provided by SW;
- (2) improper surface preparation;
- (3) improper application of the Coating System;
- (4) improper film thickness of the Coating System;
- (5) ordinary wear and tear, abnormal usage or misuse;
- (6) failure to properly maintain the coated Suitable Substrate in accordance with reasonable and customary maintenance procedures;
- (7) standing water or pooling water;
- (8) design, construction or structural defects in any Suitable Substrate and/or structural settling or movement;
- (9) the use or application of any patches, fillers, undercoats or topcoats not recommended and supplied by SW, whether applied prior to, concurrently with or after the application of the Coating System;
- (10) improper repair;
- (11) causes unrelated to the performance of the Coating System under normal operating conditions;
- (12) abrasion, mechanical damage, abrasive cleaning, abuse, or damage resulting from use of chemicals or cleaning agents;
- (13) exposure to harmful solids, liquids or gases;

- (14) exposure to abnormal conditions including, without limitation, corrosive or aggressive atmospheres such as those contaminated with chemical fumes;
- (15) improper substrate installation;
- (16) damage caused by any person or entity other than SW;
- (17) staining, rust staining, or bleeding resulting from rusting of ungalvanized bolts;
- (18) any defect occurring on hidden surfaces or at connections which cannot feasibly be painted;
- (19) any defect in coating materials, including thinners, not manufactured by SW; and
- (20) causes beyond the reasonable control of SW including, but not limited to, damage or defects caused in whole or in part by reason of fire, explosion, flood, war, riots, civil commotion, radiation, acts of God, unusual weather conditions (including but not limited to, hurricane, tornado and/or earthquake), falling objects, external forces, matters normally covered by force majeure, misuse, alteration, abuse, vandalism, negligence, or any other similar or dissimilar circumstance or event beyond the reasonable control of SW.

(c) "Project" shall mean Insert specific name, location and address of painting project.

(d) "Suitable Substrate(s)" shall mean Insert type of substrate at Project such as concrete, drywall, etc. located at the Project.

(e) "Warranty Period" shall mean the Insert number of years written out (Insert number) year period commencing on the date that Owner and/or Owner's painting contractor purchased the Coating System for the Project from SW.

9. **APPLICABLE LAW.** This Limited Warranty shall be governed by and construed in accordance with the internal laws of the State of Ohio without regard to the principles of conflicts of laws.

10. **ENTIRE AGREEMENT.** This Limited Warranty constitutes the entire agreement between SW and Owner concerning the subject matter hereof and supersedes all prior or contemporaneous agreements or warranties between the parties concerning the subject matter hereof. This Limited Warranty shall not be binding upon SW unless it is signed by Owner and a SW District Manager.

THE SHERWIN-WILLIAMS COMPANY

By: _____

Title: _____

Date: _____

OWNER:

By: _____

Title: _____

Date: _____

SECTION 101400 - SIGNAGE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals:
 - 1. Product Data: For each type of product indicated
 - 2. Shop Drawings: Show fabrication and installation details for signs
 - a. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories
 - b. Provide message list, typestyles, graphic elements, including tactile characters and Braille, and layout for each sign
 - c. Use same designations indicated on Drawings to identify location of signs
 - 3. Samples for Selection: Submit actual acrylic samples showing the full range of color and textures available for signs and text/graphics, for selection of colors by the Architect and approved by the Owner.

PART 2 - PRODUCTS

2.1 SIGNS, GENERAL

- A. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines.

2.2 DIMENSIONAL LETTER SIGNS

- A. Manufacturers:
 - 1. ACE Sign Systems, Inc.
 - 2. Allen Markings International.
 - 3. APCO Graphics, Inc.
 - 4. A. R. K. Ramos Signage Systems.
 - 5. ASI Sign Systems, Inc.
 - 6. Diskey Sign Company.
 - 7. Gemini Incorporated.
 - 8. Matthews International Corporation; Bronze Division.
 - 9. Metal Arts; Division of L & H Mfg. Co.
 - 10. Metallic Arts.
 - 11. Seton Identification Products.
 - 12. Southwell Company (The).
- B. Dimensional Characters: Cast-aluminum characters.
 - 1. Finish and Color: As selected from manufacturer's full range.

2. Illuminated Characters: Manufacturer's standard LED lighting including transformers, insulators, and other components.

2.3 PANEL SIGNS

- A. Manufacturers:
 1. Best Sign Systems Inc.
 2. Hart Architectural Signage
 3. Mohawk Sign Systems.
 4. Seton Identification Products.
- B. Interior Panel Signs: Acrylic Sheet with beveled edges and square corners.
 1. Finishes and Colors: As selected from manufacturer's full range.
 2. Tactile Characters: Characters and Grade 2 Braille raised 1/32 inch above surface with contrasting colors.
 3. Provide signs for all rooms mounted on the wall beside the room door:

2.4 FIRE CODE REGULATORY SIGNAGE

- A. Interior and Exterior Shaftway Openings: "SHAFTWAY", in red 6 inch tall red letters on a white background.
- B. Stencils: Commercially manufactured reusable brass or plastic, with lettering size and message specified in Part 3 article "**X-HOUR** FIRE RATED ASSEMBLY".
 1. Color: Red.
 2. Location: Above suspended ceilings when possible.
- C. Rooms with Fire Protection Equipment: Provide rooms containing electrical service disconnects, fire sprinkler risers and valves, air conditioning controls and similar spaces containing fire protection equipment with room signs indicating fire protection equipment contained within the room.
 1. Sign for Spaces with Spring Control Valves: Permanently install with letters and numbers that contrast with the sign background; lettering shall be at least 4 inches in height and shall read "Sprinkler Control Valves".
 - a. Locate sprinkler control valve sign on the entrance doors to the sprinkler control valve rooms.

2.5 MATERIALS

- A. Aluminum Castings: Alloy recommended by sign manufacturer for casting process used and for use and finish indicated.
- B. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy and temper recommended by aluminum producer and finisher, with not less than the strength and durability of 5005-H15.
- C. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).

- D. Plastic Laminate: High-pressure laminate engraving stock with face and core in contrasting colors.
- E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate signs where indicated or directed by Architect. Install signs level, plumb, and at heights indicated, with sign surfaces free from distortion and other defects in appearance.
- B. Wall-Mounted Signs:
 - 1. Two-Face Tape: Mount signs to smooth, nonporous surfaces, other than vinyl.
 - 2. Silicone-Adhesive Mounting: Attach signs to irregular, porous, or vinyl-covered surfaces.
 - 3. Mount top of sign 5'-0" above finish floor unless otherwise indicated.
- C. Dimensional Characters: at projection distance from wall surface indicated.

END OF SECTION 101400

SECTION 102113 - TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings, and Samples.

PART 2 - PRODUCTS

TOILET COMPARTMENTS AND SCREENS

- A. Manufacturers:
 - 1. Accurate Partitions Corporation.
 - 2. American Sanitary Partition Corporation.
 - 3. Bobrick Washroom Equipment, Inc.
 - 4. Bradley Corporation; Mills Partitions.
 - 5. General Partitions Mfg. Corp.
 - 6. Hadrian Manufacturing Inc.
 - 7. Marlite.
 - 8. Scranton Products, Inc.

Accessibility Requirements: Comply with the U.S. Architectural & Transportation Barriers Compliance Board's Accessibility Guidelines and ICC A117.1 for toilet compartments designated as accessible.

MATERIALS

- A. Stainless-Steel Sheet: ASTM A 666, Type 304, No. 3 or No. 4 directional polish.
- B. Core Material for Metal-Faced Units: Sound-deadening honeycomb of resin-impregnated kraft paper in thickness required to provide finished thickness of 1 inch (25 mm) minimum for doors, panels, and screens and 1-1/4 inches (32 mm) minimum for pilasters.
- C. Pilaster Shoes and Sleeves (Caps): Stainless steel not less than 3 inches (75 mm) high.
- D. Brackets: Continuous.
 - 1. Material: Stainless steel.

2.3 FABRICATION

- A. Toilet Compartments: Overhead braced and floor anchored.

- B. Urinal Screens: Floor and ceiling anchored.
- C. Metal Units: Internally reinforce metal panels for hardware, accessories, and grab bars.
- D. Doors: Unless otherwise indicated, 24-inch- (610-mm-) wide in-swinging doors for standard toilet compartments and 36-inch- (914-mm-) wide out-swinging doors with a minimum 32-inch- (813-mm-) wide clear opening for compartments indicated to be accessible to people with disabilities.
- E. Door Hardware: Stainless steel. Provide units that comply with accessibility requirements of authorities having jurisdiction at compartments indicated to be accessible to people with disabilities.
 - 1. Hinges: Self-closing type, adjustable to hold door open at any angle up to 90 degrees.
 - 2. Latches and Keepers: Recessed unit designed for emergency access and with combination rubber-faced door strike and keeper.
 - 3. Coat Hook: Combination hook and rubber-tipped bumper, sized to prevent door from hitting compartment-mounted accessories.
 - 4. Toilet paper dispenser (TB-2).
 - 5. Door Bumper: Rubber-tipped bumpers at out-swinging doors or entrance screen doors.
 - 6. Door Pull: Provide at out-swinging doors. Provide units on both sides of doors at compartments indicated to be accessible to people with disabilities.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units rigid, straight, level, and plumb, with not more than 1/2 inch (13 mm) between pilasters and panels and not more than 1 inch (25 mm) between panels and walls. Provide brackets, pilaster shoes, bracing, and other components required for a complete installation. Use theft-resistant exposed fasteners finished to match hardware. Use sleeve nuts for through-bolt applications.
 - 1. Stirrup Brackets: Align brackets at pilasters with brackets at walls. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
 - 2. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and swing doors in entrance screens to return to fully closed position.

END OF SECTION 102113

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 TOILET AND BATH ACCESSORIES

- A. Manufacturers:
1. Bobrick Washroom Equipment, Inc.
 2. Gatco Fine Bathware.
 3. Harney Hardware.
- B. Apartment Toilet Tissue Dispenser (TPD-1):
1. Basis-of-Design Product: Gatco Latitude Series
 2. Type: Single-roll dispenser.
 3. Mounting: Surface mounted with concealed anchorage.
 4. Material: Chrome.
 5. Capacity: Designed for 4-1/2- or 5-inch- diameter-core tissue rolls.
- C. Public Restroom Toilet Tissue Dispenser (TPD-2):
1. Basis-of-Design Product: Bobrick B-6857
 2. Type: Single-roll dispenser.
 3. Mounting: Surface mounted with concealed anchorage.
 4. Material: Satin.
 5. Capacity: Designed for 4-1/2- or 5-inch- diameter-core tissue rolls.
- D. Apartment Towel Ring (TR):
1. Basis-of-Design Product: Gatco Latitude Series
 2. Material: Chrome.
 3. Mounting: concealed.
- E. Apartment Grab Bar (GB):
1. Basis-of-Design Product: Gatco Latitude Series
 2. Material: Chrome.
 3. Mounting: Concealed.
 4. Outside Diameter: 1-1/4 inches.
- F. Public Restroom Grab Bar (GB):
1. Basis-of-Design Product: Bobrick B-6806 Series
 2. Material: Satin Nickel
 3. Mounting: Concealed.

4. Outside Diameter: 1-1/2 inches.
- G. Mirror Unit (MIR-1):
1. Frame: frameless
 2. Size: 36" W x 36" H
- H. Mirror Unit (MIR-2):
1. Frame: frameless
 2. Size: 30" W x 36" H
- I. Shower Curtain Rod (SCR):
1. Gatco, Minimalist Shower Rod Set
 2. Outside Diameter: 1 inch.
 3. Mounting: Flanges with concealed fasteners.
 4. Material and Finish: Chrome.
- J. Robe Hook (RH):
1. Gatco, Latitude
 2. Description: single-prong unit.
 3. Material and Finish: Chrome.
- K. Towel Bar (TB):
1. Gatco, Latitude
 2. Mounting: Flanges with concealed fasteners.
 3. Length: 24 inches.
 4. Material and Finish: Chrome.
- L. Underlavatory Guard (ULG):
1. Basis-of-Design Product: Truebro LavGuard.
 2. Description: Insulating pipe coverings for supply and drain piping assemblies, which prevent direct contact with and burns from piping, and allow service access without removing coverings.
 3. Material and Finish: Antimicrobial, molded plastic, white.
- M. Medicine Cabinet (MC-1):
1. Basis-of-Design Product: Broan Nutone Focus 1438
 2. Mounting: recessed
 3. Size: 16" W. x 26" H.
- N. Public Restroom Sanitary Napkin Disposal (SND):
1. Basis-of-Design Product: Bobrick B-270
 2. Mounting: surface
 3. Material and Finish: Satin Nickel.
- O. Paper Towel Dispenser (PTD):
1. Basis-of-Design Product: Bobrick B-262.
 2. Mounting: surface.

3. Material and Finish: Type 304, 22-gauge stainless steel with satin finish.

P. Soap Dispenser (SD):

1. Basis-of-Design Product: Bobrick 818615.
2. Mounting: surface.
3. Material and Finish: Type 316, 20-gauge stainless steel with satin finish.

2.2 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, No. 4 finish (satin), 0.0312-inch minimum nominal thickness unless otherwise indicated.
- B. Aluminum: ASTM B 221 (ASTM B 221M), Alloy 6063-T6 or 6463-T6.
- C. Sheet Steel: ASTM A 1008/A 1008M, 0.0359-inch minimum nominal thickness.
- D. Galvanized-Steel Sheet: ASTM A 653/A 653M, G60 (Z180).
- E. Chromium Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
- F. Baked-Enamel Finish: Factory-applied, gloss-white, baked-acrylic-enamel coating.
- G. Tempered Glass: ASTM C 1048, Kind FT (fully tempered).
- H. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.
- I. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- J. Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper and theft resistant when exposed, and of galvanized steel when concealed.
- K. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
 1. Install grab bars to withstand a downward load of at least 250 lbf (1112 N), when tested according to method in ASTM F 446.

- B. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items. Remove temporary labels and protective coatings.
- C. Provide 2X wood blocking inside walls for all accessories.

END OF SECTION 102800

SECTION 104400 - FIRE PROTECTION SPECIALTIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 FIRE-PROTECTION CABINETS

- A. Fire-Protection Cabinets: Enameled-steel, semi recessed cabinets for fire extinguisher.
1. Manufacturers:
 - a. J. L. Industries, Inc., a division of Activar Construction Products Group.
 - b. Kidde Residential and Commercial Division, Subsidiary of Kidde plc.
 - c. Larsen's Manufacturing Company.
 - d. Potter Roemer LLC.
- B. Fire-Resistance Rating: 1-hour.
1. Fire-Rated Cabinets: Listed and labeled to comply with requirements in ASTM E 814 for fire-resistance rating indicated. Constructed with double walls fabricated from 0.048-inch- thick, steel sheet lined with fire-barrier material.
- C. Cabinet Material: Stainless-steel sheet.
1. Trim Style: Rolled trim.
 2. Trim Material: Stainless steel.
- D. Door Material: Stainless steel.
1. Door Style: Fully glazed with frame.
 2. Door Glazing: Acrylic.
- E. Accessories: Mounting brackets Identification lettering.
- F. Finishes:
1. Manufacturer's standard baked-enamel paint for the following:
 - a. Exterior of cabinet , door, and trim except for those surfaces indicated to receive another finish.
 - b. Interior of cabinet and door.
 2. Stainless Steel: No. 2B.

2.2 FIRE EXTINGUISHERS AND BRACKETS

- A. Portable Fire Extinguishers: NFPA 10, listed and labeled for the type, rating, and classification of extinguisher.
 - 1. Manufacturers:
 - a. Ansul Incorporated; Tyco International Ltd.
 - b. Badger Fire Protection; a Kidde company.
 - c. J. L. Industries, Inc.; a division of Activar Construction Products Group.
 - d. Kidde Residential and Commercial Division; Subsidiary of Kidde plc.
 - e. Larsen's Manufacturing Company.
 - f. Potter Roemer LLC.
 - 2. Public Areas - Multipurpose Dry-Chemical Type: UL-rated 4-A:60-B:C, 10-lb nominal capacity, in enameled-steel container.
- B. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for fire extinguishers indicated, with plated or baked-enamel finish.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install cabinets at 48 inches above finished floor to top of cabinet.
- B. Identification: Apply vinyl lettering to cabinets at locations indicated.
- C. Install mounting brackets in locations indicated at 48 inches above finished floor to top of fire extinguisher.
- D. Install fire extinguishers in mounting brackets and cabinets where indicated.

END OF SECTION 104400

SECTION 105513 - MAILBOXES

PART 1- GENERAL

1.1 SECTION INCLUDES

- A. 4C Horizontal Mailboxes.
 - 1. Front-loading interior (or exterior) mailboxes.

1.2 RELATED SECTIONS

- A. Section 061000 – Rough Carpentry: Framed wall openings to receive mailboxes.
- B. Section 092900 - Gypsum Board.

1.3 REFERENCES

- A. United States Postal Service (USPS):
 - 1. USPS-STD-4C: United States Postal Service Standard 4C, Wall-Mounted Centralized Mail Receptacles.
 - 2. USPS PUBLICATION 16.
- B. Architectural and Transportation Barriers Compliance Board (ATBCB): Americans with Disabilities Act Accessibility Guidelines (ADAAG) for Buildings and Facilities.
- C. IBC - International Building Code.
- D. ASTM A 666 - Specification for Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar.
- E. ASTM B 209 - Specification Aluminum and Aluminum Alloy Sheet and Plate.
- F. ASTM B 221 - Specification Aluminum and Aluminum Alloy Extruded Bar, Rods, Wire, Shapes, and Tubes.

1.4 SUBMITTALS

- A. Submit under provisions of Section 013000.
- B. Product Data : Manufacturer's data sheets on each product to be used, including:
 - 1. Construction details, material descriptions, dimensions and finishes.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Installation methods.
- C. Shop Drawings: Prepared specifically for this project; show dimensions of mailboxes, wall cuts, and interface with other products.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two samples, minimum size 2 inches (50 mm) square, representing actual color and texture.

1.5 REGULATORY REQUIREMENTS

- A. Comply with USPS-STD-4C for wall-mounted centralized mailboxes.
- B. Comply with Americans with Disabilities Act Accessibility Guidelines (ADAAG).

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer shall have a Quality System in place to ensure and be able to substantiate that manufactured units conform to requirements and match the approved design and must be ISO 9001:2008 certified.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Inspect the materials upon delivery to ensure that specified products have been received.
- B. Store materials protected from exposure to harmful weather conditions.
- C. Handle materials to prevent damage or marring of finish.

1.8 WARRANTY

- A. Manufacturer's standard warranty to repair or replace components of postal specialties that fail in materials or workmanship within one year from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Salsbury Industries, 1010 East 62nd Street; Los Angeles, CA 90001-1598; Toll Free Tel: 800-MAILBOX (800-624-5269); Fax: 800-624-5299; Email: salsbury@mailboxes.com; Web: www.mailboxes.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 016000.

2.2 WALL-MOUNTED CENTRALIZED MAIL RECEPTACLES - HORIZONTAL MAILBOXES

- A. USPS Approved Front-Loading Mailboxes: Horizontal style complying with USPS-STD-4C as manufactured by Salsbury Industries consisting of multiple compartments enclosed within recessed wall box. Provide access to compartments for distributing incoming mail from front of unit with accessibility to entire group of compartments. Provide access to each compartment for removing mail by swinging compartment door.
 - 1. Model: 3700 Series.
 - a. Module: 3706DA-10
 - 2. Mounting: Recessed mounted.
 - 3. Locks: USPS-1172 910A, 3 keys each lock.
 - 4. Box Identification:
 - a. Numerical ID Decals.
 - 5. Mail Distribution:
 - a. Mail Distribution: USPS.
 - 6. Material and Finish: Aluminum with powder coated finish.

- a. Color: Selected from manufacturer's full range of colors.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that openings in wall are correctly located, aligned, and sized for mailboxes.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

3.4 CLEANING

- A. Clean surfaces with mild dish detergent. Do not use harsh abrasive cleaners.
Lubricate locks with graphite type lubricants only.

3.5 PROTECTION OF INSTALLED PRODUCTS

- A. Protect finishes from damage by construction activities.

END OF SECTION 105513

SECTION 105723 - CLOSET AND UTILITY SHELVING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Shop Drawings.
- B. Verify dimensions by field measurements before ordering and indicate on Shop Drawings.

PART 2 - PRODUCTS

2.1 WIRE CLOSET SHELVING

- A. Manufacturers:
 - 1. Closetmaid Corporation.
 - 2. Rubbermaid.
 - 3. Schulte Corporation.
- B. Structural Performance: Wire closet shelving system shall be capable of supporting the following weight per unit length:
 - 1. With shelf supported by walls at both ends:
 - a. Shelves 36 Inches or Less in Length: 60 lb/ft..
 - b. Shelves 37 to 48 Inches in Length: 55 lb/ft..
 - c. Shelves 49 to 60 Inches in Length: 50 lb/ft..
 - d. Shelves 61 Inches or More in Length: 40 lb/ft..
 - 2. With shelf supported by a wall at one end only:
 - a. Shelves 36 Inches or Less in Length: 50 lb/ft..
 - b. Shelves 37 to 48 Inches in Length: 45 lb/ft..
 - c. Shelves 49 to 60 Inches in Length: 40 lb/ft..
 - d. Shelves 61 Inches or More in Length: 35 lb/ft..
 - 3. With shelf not supported by a wall at either end:
 - a. Shelves 36 Inches or Less in Length: 45 lb/ft..
 - b. Shelves 37 to 48 Inches in Length: 40 lb/ft..
 - c. Shelves 49 to 60 Inches in Length: 35 lb/ft..
 - d. Shelves 61 Inches or More in Length: 30 lb/ft..
- C. Wire closet shelving, made from steel wire spaced not more than 5/8 inch o.c. and welded to longitudinal steel wire rods. Provide longitudinal wire rods at shelf edges and corners of lips, with not less than four longitudinal wire rods per shelf. Provide 12-inch- wide shelves unless otherwise indicated. Provides units complete with brackets, fasteners, end caps, and accessories indicated.
 - 1. Provide units mounted on adjustable tracks that allow shelf configurations to be modified. Provide units in quantities and sizes indicated.
 - 2. Provide units with rod for clothes hangers in Bedroom Closets.
 - 3. Provide units with longitudinal wire rods on tops of shelves to allow objects to slide easily along length of shelf.

2.2 MATERIALS

- A. Steel Wire: ASTM A 853.

1. H/C (ANSI Type A) Apartment Units: Adjustable height shelving on adjustable standards.
2. Mounting between 44" and 85".

2.3 FINISHES

- A. Wire Shelving Finish: White vinyl applied over cleaned and conversion-coated metal.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units in configurations indicated, complete with accessories indicated, and ready for use.
- B. Install units level, plumb, and true to line, without warp or rack and anchor securely in place.
- C. Repair, refinish, or replace wire closet shelving damaged during installation, as directed by Architect.
- D. Install units into solid 2X wood blocking.

END OF SECTION 105723

SECTION 113100 - RESIDENTIAL APPLIANCES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Regulatory Requirements: Comply with provisions of the following product certifications:
 - 1. NFPA: Provide electrical appliances listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 - 2. UL and NEMA: Provide electrical components required as part of residential appliances that are listed and labeled by UL and that comply with applicable NEMA standards.
 - 3. NAECA: Provide residential appliances that comply with NAECA standards.
- C. Accessibility: Where residential appliances are indicated to comply with accessibility requirements, comply with ANSI A117.1 2003.
- D. Energy Ratings: Provide appliances that qualify for the EPA/DOE ENERGY STAR product labeling program.

PART 2 - PRODUCTS

2.1 RESIDENTIAL APPLIANCES

- A. ANSI Type A Apartment Electric range: 30-inch wide, freestanding range with 4 burners and self-cleaning oven with broiler unit.
 - 1. Basis-of-Design Product: Frigidaire FCFE3062AS.
 - 2. Color: Stainless Steel.
 - 3. Range controls shall be front operations and marked for visually impaired users.
 - 4. Anti-tip Device.
 - 5. Power supply cord.
 - 6. ADA compliant.
 - 7. Fire Prevention system: SmartBurner by PioneeringTech; UL858
- B. Standard Apartment Electric Range: 30-inch- wide, freestanding range with 4 burners and standard-cleaning oven with broiler unit.
 - 1. Basis-of-Design Product: General Electric Model No. JBS160DMSS..
 - 2. Color: Stainless Steel.
 - 3. Anti-tip Device.
 - 4. Power supply cord.
 - 5. Fire Prevention system: SmartBurner by PioneeringTech; UL858
- C. ANSI Type A Apartment Exhaust Hood: 30-inch, wall-mounted ventilating exhaust hood with 2-speed fan.
 - 1. Basis-of-Design Product: General Electric Model JVB5305SJSS, 270/100 CFM.

2. Sone Rating: ≤ 4.5 sones intermittent; ≤ 1.5 sone continuous.
 3. Fan Control: Wall mounted ADA compliant controls separate for fan and light.
 4. Weatherproof wall cap with backdraft damper and rodent-proof screening.
 5. Color: Stainless Steel.
 6. Energy Star rated.
 7. ADA compliant.
- D. Standard Apartment Exhaust Hood: 30-inch, wall-mounted ventilating exhaust hood with 2-speed fan.
1. Basis-of-Design Product: General Electric Model, JVX5305DJSS, 270/100 CFM
 2. Fan Control: Hood-mounted switch, with separate light switch.
 3. Weatherproof wall cap with backdraft damper and rodent-proof screening.
 4. Color: Stainless steel.
 5. Energy Star rated.
- E. ANSI Type A Apartment Refrigerator/Freezer: Freestanding, frost-free, two-door refrigerator with side by side freezer, ABS thermoplastic-copolymer interior cabinet liners.
1. Basis of Design Product: Whirlpool Model No. WRS331SDH.
 2. Fresh Food Compartment Volume: 14 cu ft.
 3. Freezer Compartment Volume: 7 cu ft.
 4. Color: Stainless Steel.
 5. Energy Star rated.
 6. ADA, UFAS Compliant.
- F. One and Two Bedroom Refrigerator/Freezer: Freestanding, frost-free, two-door refrigerator with top-mounted freezer ABS thermoplastic-copolymer interior cabinet liners.
1. Basis-of-Design Product: General Electric Model No. GTE18DTNRSS.
 2. Integral door handle.
 3. Color: Stainless Steel.
 4. Energy Star Rated.
- G. ANSI Type A Apartment Dishwasher: Built-in, under counter, automatic dishwasher, sized to replace 24-inch- base cabinet, 5 wash cycles with hot-air and heat-off drying cycles, stainless-steel tub and door liner, nylon-coated sliding dish racks.
1. Basis-of-Design Product: General Electric Model No. GDT225SSLSS.
 2. ADA compliant.
 3. Energy Star rated.
 4. Color: Stainless Steel.
- H. Standard Apartment Dishwasher: Built-in, under counter, automatic dishwasher, sized to replace 24-inch- base cabinet, 4 wash cycles with hot-air and heat-off drying cycles, stainless-steel tub and door liner, nylon-coated sliding dish racks.
1. Basis-of-Design Product: General Electric Model No. GDF511PSRSS.
 2. Energy Star rated.
 3. Color: Stainless steel.
- I. Common Area Kitchenette Microwave Oven: Built-in microwave oven, 2.2-cu. ft. capacity, 1,200 W, 10 power levels.

1. Basis-of-Design Product: Frigidaire Model No. GMBS3068BF.
 2. Color: Stainless Steel.
 3. Provide trim kit.
- J. Common Area Kitchenette Refrigerator/Freezer: Freestanding, frost-free, two-door refrigerator with side by side freezer, ABS thermoplastic-copolymer interior cabinet liners.
1. Basis of Design Product: Whirlpool Model No. WRS331SDH.
 2. Fresh Food Compartment Volume: 14 cu ft.
 3. Freezer Compartment Volume: 7 cu ft.
 4. Color: Stainless Steel.
 5. Energy Star rated.
 6. ADA Compliant.
- K. Common Area Kitchenette Dishwasher: Built-in, under counter, automatic dishwasher, sized to replace 24-inch- base cabinet, 5 wash cycles with hot-air and heat-off drying cycles, stainless-steel tub and door liner, nylon-coated sliding dish racks.
1. Basis-of-Design Product: General Electric Model No. GDT225SSLSS.
 2. ADA compliant.
 3. Energy Star rated.
 4. Color: Stainless Steel.
- L. Meeting Room Under Cabinet Refrigerator: Freestanding, frost-free, two-door refrigerator with side by side freezer, ABS thermoplastic-copolymer interior cabinet liners.
1. Basis of Design Product: GE Model No. GCE06GSHSB.
 2. Fresh Food Compartment Volume: 5.6 cu ft.
 3. Color: Stainless Steel.
 4. Energy Star rated.
 5. ADA Compliant.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Built-in Appliances: Securely anchor to supporting cabinetry or countertops with concealed fasteners. Verify that clearances are adequate for proper functioning and rough openings are completely concealed.
- B. Freestanding Appliances: Place in final locations after finishes have been completed in each area. Verify that clearances are adequate to properly operate equipment.
- C. Test each item of residential appliances to verify proper operation. Make necessary adjustments.
- D. Verify that accessories required have been furnished and installed.

END OF SECTION 113100

SECTION 113300 - RETRACTABLE STAIRS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Manual disappearing stairways.

1.2 REFERENCES

- A. ANSI A14.9: Safety Requirements for Ceiling Mounted Disappearing Climbing Systems.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings for Stairs:
 - 1. Plan and section of stair installation.
 - 2. Indicate rough opening dimensions for ceiling and/or roof openings.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store stairway until installation inside under cover in manufacturer's unopened packaging. If stored outside, under a tarp or suitable cover.

1.5 WARRANTY

- A. Limited Warranty: One year against defective material and workmanship, covering parts only. Defective parts, as deemed by the manufacturer, will be replaced at no charge, freight excluded, upon inspection at manufacturer's plant.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Manufacturer: Precision Ladders, LLC, P. O. Box 2279; Morristown, TN 37816-2279; Tel: 423-586-2265; Fax: 423-586-2091; www.PrecisionLadders.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MANUAL DISAPPEARING STAIRWAY.

- A. Manual Disappearing Stairway.
 - 1. Standard Model: Super Simplex Disappearing Stairway as manufactured by Precision Ladders LLC. Stairs for ceiling heights 7'-0" – 12'-0": Model 1000 (ceiling height in inches).
- B. Performance Standard: Unit shall comply with ANSI A14.9, Commercial Type, for rough openings between 27 inches to 39 inches.
- C. Accessories:
 - 1. Steel pole to aid opening and closing stairways.

2. Stairs for ceiling heights 9' -10" – 12' -0" shall be equipped with a patented Precision Fold Assist to aid in folding and unfolding of sections.
3. Keyed lock for door (standard on fire-rated models, optional on non-fire-rated models).
- D. Components:
 1. Ceiling Opening
 - a. Ceiling height of 9' 9" or less requires an opening of 30" x 54"
 2. Stairway Stringer: 6005-T5 Extruded aluminum channel 5" x 1" x 1/8"; tri-fold design; steel blade type hinges; adjustable feet with plastic Mar-guard. Pitch shall be 63°.
 3. Stairway Tread: 6005-T5 extruded aluminum channel 5 3/16 inches by 1 1/4 inches by 1/8 inch. Depth is 5 3/16 inches. Deeply serrated top surface. Riser Height: 9-1/2 inches. Clear Tread Width for Standard Width: 18 inches.
 4. Railing: Aluminum bar handrail riveted to stringers, upper section only.
 5. Frame:
 - a. If ceiling to floor (or roof deck) above is under 12", frame shall be 1/8" steel formed channel, box.
 - b. When ceiling to floor (or roof deck) above is 12" or greater, the frame shall be 1/8" steel, 63° (with built-in steps) on the hinge end, 90° on the other end, custom depth to fill distance from ceiling to floor above. This custom frame will require a longer opening in the floor above than is required at the ceiling level.
 6. Door Panel
 - a. On fire-rated models, the door panel shall be constructed of 20 gauge steel and have a 2 hour fire rating for use in fire-rated ceiling assemblies as issued by Warnock-Hersey or other appropriate independent testing/licensing agency.
 7. Hardware:
 - a. Steel blade type hinge connecting stringer sections. Zinc plated and chromate sealed.
 - b. Steel operating arms, both sides. Zinc coat with clear trivalent chromate.
 - c. Double acting steel springs and cable, both sides.
 - d. Rivets rated at 1100 lb (499 kg) shear strength each.
 - e. Steel section alignment clips at stringer section joints.
 - f. Molded rubber guards at corners of aluminum door panel.
 8. Finishes: Mill finish on aluminum stairway components. Prime coat on frame.

2.3 FABRICATION

- A. Completely fabricate ladder ready for installation before shipment to the site.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until rough opening and structural support have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Examine materials upon arrival at site. Notify the carrier and manufacturer of any damage.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

3.3 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 122100 - WINDOW BLINDS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Samples.

PART 2 - PRODUCTS

2.1 WINDOW BLINDS

- A. Manufacturers:
 - 1. Hunter Douglas Contract.
 - 2. Levolor Contract; a Newell Rubbermaid company.
 - 3. Springs Window Fashions.
- B. Provide blinds passing flame-resistance testing according to NFPA 701.
- C. Fabrication: Comply with WCMA A 100.1 unless otherwise indicated.
 - 1. Provide color-coated finish on exposed metal parts unless otherwise indicated.
 - 2. Fabricate concealed components from noncorrodible or corrosion-resistant-coated materials.
 - 3. Provide permanently lubricated moving parts.

2.2 HORIZONTAL BLIND – Apartment and Common Area Windows

- A. Slats: Aluminum, antistatic polyester coated.
- B. Slat Width: 1 inch (25 mm).
- C. Headrail: Formed steel or extruded aluminum; long edges returned or rolled; fully enclosing operating mechanisms on three sides and ends.
- D. Tilt Operation: Manual with wand.
 - 1. ANSI Type A Units: Wand must be 48" AFF max.
- E. Valance: Manufacturer's standard.
- F. Mounting: Wall.
- G. Colors, Textures, Patterns, and Gloss: As selected from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install blinds level, plumb, and located not closer than 2 inches (51 mm) to interior face of glass.
 - 1. Flush Mounted: Install blinds with louver edges flush with finish face of opening when blinds are open.
 - 2. Jamb Mounted: Install headrail flush with face of opening jamb and head.
- B. Adjust window blinds to operate smoothly and easily throughout entire operational range.

END OF SECTION 122100

SECTION 123530 - RESIDENTIAL CASEWORK

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings, and Samples.

PART 2 - PRODUCTS

2.1 CABINETS

- A. Comply with KCMA A161.1.
 - 1. Provide cabinets with KCMA's "Certified Cabinet" seal affixed in a semiexposed location of each unit.

Kitchen and Vanity Cabinets:

Basis of Design Product: Wellborn Aspire Cabinetry

- 2. Face Style: Flush overlay

Cabinet Style: Frameless.

Door and Drawer Fronts: Melamine-faced MDF

- 5. Face Frame Finish: Plastic laminate melamine.
- 6. Exposed Cabinet End Finish: Melamine.
- 7. Semiexposed Materials: Medium-density particleboard, with melamine surface.
- 8. Door and Drawer Pulls:
 - a. Push and Touch opening system
- 9. Hinges: Concealed European-style self-closing hinges.
- 10. Drawer Guides: Epoxy-coated-metal, self-closing drawer guides with nylon-tired, ball-bearing rollers, full extension

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install cabinets with no variations in flushness of adjoining surfaces by using concealed shims. Where casework abuts other finished work, scribe and cut for accurate fit. Provide filler strips, scribe strips, and moldings in finish to match casework face.

- B. Install cabinets without distortion so doors and drawers fit openings properly and are aligned.
- C. Install level and plumb to a tolerance of 1/8 inch in 8 feet (3.2 mm in 2.4 m).
- D. Fasten each cabinet to adjacent unit and to structural members of wall construction. Fasten wall cabinets through back, near top and bottom, at ends and not less than 24 inches (600 mm) o.c.

Use No. 10 wafer-head screws sized for 1-inch (25-mm) penetration into wood framing, blocking, or hanging strips.

- 2. Use toggle bolts through metal backing behind gypsum board.

END OF SECTION 123530

SECTION 123623 - PLASTIC COUNTERTOPS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Shop Drawings, Samples showing the full range of colors, textures, and patterns available for each type of finish and AWI Quality Certification Program certificates.
- B. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program.
- C. Installer Qualifications: Fabricator of products.
- D. Environmental Limitations: Do not deliver or install countertops until building is enclosed, wet work is completed, and HVAC system is operating.

PART 2 - PRODUCTS

PLASTIC-LAMINATE COUNTERTOPS

- A. Quality Standard: AWI, AWMAC, and WI's "Architectural Woodwork Standards."
- B. Plastic-Laminate Countertops: Premium grade.
 - 1. Laminate Grade: HGS for flat countertops, HGP for post-formed countertops.

Grain Direction: Parallel to cabinet fronts.

- 3. Edge Treatment: Same as laminate cladding on horizontal surfaces.

2.2 MATERIALS

Wood Moisture Content: 4 to 9 percent.

- B. Medium-Density Fiberboard: ANSI A208.2, Grade 130, made with binder containing no urea formaldehyde.
- C. Particleboard: ANSI A208.1, Grade M-2, made with binder containing no urea formaldehyde.
- D. Softwood Plywood: DOC PS 1.
- E. High-Pressure Decorative Laminate: NEMA LD 3.

One of the following:

- a. Formica Corporation.
- b. Lamin-Art, Inc.

c. Wilsonart International; Div. of Premark International, Inc.

- F. Countertop Configuration:
 - 1. Front Style: Rolled.
 - 2. Cove Type: Postformed laminate supported at junction of top and backsplash by wood-cove molding.
 - 3. Backsplash: Curved or waterfall shape.
 - 4. End Splash: Square edge.
- G. Grommets for Cable Passage through Countertops: 1-3/4-inch OD, molded-plastic grommets and matching plastic caps with slot for wire passage.
 - 1. Product: "PS series" by Doug Mockett & Company, Inc.

2.3 FABRICATION

- A. Complete fabrication to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Before installation, condition countertops to average prevailing humidity conditions in installation areas.
- B. Install countertops to comply with referenced quality standard for grade specified.
- C. Install countertops level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm).
- D. Scribe and cut countertops to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Anchor countertops securely to base units. Seal space between backsplash and wall.

END OF SECTION 123623

SECTION 144216 - VERTICAL PLATFORM WHEELCHAIR LIFT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Unenclosed, self-contained vertical platform wheelchair lift.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete: Concrete shaftway and anchor placement.
- B. Section 06100 - Rough Carpentry: Blocking in framed construction for lift attachment.
- C. Division 16 - Electrical: Lighting and wiring connections at top of shaft.
- D. Division 16 - Electrical: Electrical power service and wiring connections.

1.3 REFERENCES

- A. ASME A17.1 - Safety Code for Elevators and Escalators.
- B. ASME A17.5 - Elevator and Escalator Electrical Equipment.
- C. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
- D. CSA B44 - Safety Code for Elevators and Escalators.
- E. CSA B355 - Lifts for Persons with Physical Disabilities.
- F. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- G. NFPA 70 - National Electric Code.
- H. CSA - National Electric Code.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Submit manufacturer's installation instructions, including preparation, storage and handling requirements.
 - 2. Include complete description of performance and operating characteristics.

- C. Shop Drawings:
 - 1. Show typical details of assembly, erection and anchorage.
 - 2. Include wiring diagrams for power, control, and signal systems.
 - 3. Show complete layout and location of equipment, including required clearances and coordination with shaftway.
- D. Selection Samples: For each finished product specified, provide two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finished product specified, two samples, minimum size 1-3/4" x 2-1/4", representing actual product, color, and patterns.
- F. Manufacturer Qualifications: Firm with minimum 20 year's experience in manufacturing of vertical platform wheelchair lifts, with evidence of experience with similar installations of type specified.
- G. Installer Qualifications: Licensed to install equipment of this scope, with evidence of experience with specified equipment. Installer shall maintain an adequate stock of replacement parts, have qualified people available to ensure fulfillment of maintenance and callback service without unreasonable loss of time in reaching project site.

1.5 REGULATORY REQUIREMENTS

- A. Provide platform lifts in compliance with:
 - 1. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
 - 2. ASME A17.1 - Safety Code for Elevators and Escalators.
 - 3. ASME A17.5 - Elevator and Escalator Electrical Equipment.
 - 4. NFPA 70 - National Electric Code.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store components off the ground in a dry covered area, protected from adverse weather conditions.

1.7 PROJECT CONDITIONS

- A. Do not use wheelchair lift for hoisting materials or personnel during construction period.

1.8 WARRANTY

- A. Warranty: Manufacturer shall warrant the wheelchair lift materials and factory workmanship for two years following completion of installation.
- B. Extended Warranty: Provide an extended manufacturer's warranty for the entire warranty period covering the wheelchair lift materials and factory workmanship for the following additional extended period beyond the initial one-year warranty. Preventive Maintenance agreement required.
 - 1. Five additional years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Garaventa Lift;
United States - P.O. Box 1769, Blaine, WA 98231-1769.
Canada – 18920 – 36th Ave., Surrey, BC V3Z 0P6. ASD.
Toll Free: 800-663-6556. Tel: (604) 594-0422. Fax: (604) 594-9915.
Email: productinfo@garaventlift.com Web www.garaventlift.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 UNENCLOSED VERTICAL WHEELCHAIR LIFT

- A. Capacity: 750 lbs (340 kg) rated capacity.
- B. Mast Height:
 - 1. Model GVL-OP-60; 63 inches (1600 mm) maximum lifting height.
- C. Platform Size and Nominal Clear Platform Dimensions:
 - 1. Large: 43-1/4 inches (1100 mm) by 60-7/8 inches (1546 mm) clear platform dimensions.
- D. Platform Configuration:
 - 1. Straight Through: Front and rear openings.
- E. Landing Openings: Gates shall be self closing type.
 - ~~1.~~ Gate Height: 42-1/8 inches (1070 mm).
 - ~~2.1.~~ Platform Gate: Travels with platform and opens at lower landing.
 - ~~3.2.~~ Upper Landing Gate: Installed at upper landing.
- F. Power Gate Operators:
 - 1. Location:
 - a. Platform Gate: Travels with platform and opens lower landing.

- b. Upper Landing Gate.
 2. Automatically opens the gate when platform arrives at a landing. Will also open at landing by pressing call button.
 3. ADA Compliant and obstruction sensitive.
 4. Low voltage, 24 VDC with all wiring concealed.
- G. Lift Components:
 1. Machine Tower: Aluminum extrusion.
 2. Base Frame: Structural steel.
 3. Platform Side Wall Panels: 16 gauge (1.5 mm) galvanized steel sheet.
 4. Platform Access Ramp: 12 gauge (2.5 mm) galvanized steel plates; slip resistant surfaces.
 - a. Ramp: Stationary type.
 5. Side Guard Panels: 42-1/8 inches (1070 mm) high mounted on platform.
- H. Base Mounting at Lower Landing:
 1. Pit Mount: Lift to be mounted in pit with dimensions to meet manufacturer's requirements for the platform size specified. Pit construction shall be in accordance to Section 03300.
- I. Leadscrew Drive:
 1. Drive Type: Self-lubricating acme screw drive.
 2. Emergency Operation: Manual handwheel device to raise or lower platform.
 3. Battery Powered Emergency Lowering: Battery powered platform lowering device that automatically activates in the event of power failure. Allows passenger to drive platform downward to lower landing. Does not operate lift in up direction.
 4. Safety Devices:
 - a. Integral safety nut assembly with safety switch.
 5. Travel Speed: 10 fpm (3.0 m/minute).
 6. Motor: 2.0 hp (560 W).
 7. Power Supply:
 - a. 120 VAC single phase; 60 Hz on a dedicated 20-amp circuit.
- J. Platform Controls: 24 VDC control circuit with the following features.
 1. Direction Control: Continuous pressure rocker switch.
 2. Illuminated and audible emergency stop switch shuts off power to lift and activates audio alarm with battery backup.
 3. Keyless operation.
 4. Keyed operation.
 5. Emergency Telephone: Platform shall be equipped with ADA compliant integrated telephone with a stainless-steel faceplate. Telephone shall operate in the event of power failure. A telephone line shall be supplied to the lift site as specified under Division 16.
- K. Call Station Controls: 24 VDC control circuit with the following features.

1. Direction Control:
 - a. Continuous pressure rocker switch.
 2. Keyless operation.
 3. Call Station Mounting:
 - a. Lower:
 - 1) Wall mounted surface.
 - b. Upper:
 - 1) Wall mounted surface.
- L. Safety Devices and Features:
1. Grounded electrical system with upper, lower, and final limit switches.
 2. Tamper resistant interlock to electrically monitor that the gate is in the closed position and the lock is engaged before lift can move from landing.
 3. Pit stop switch mounted on mast wall.
 4. Electrical disconnect shall shut off power to the lift.
 5. Under platform safety pan with five waterproof safety switches to detect obstruction under platform.
- M. Finishes
1. Extruded aluminum electrostatically applied baked powder finish, semi matte Silver Moon.
 2. Ferrous Components: Electrostatically applied baked powder finish, semi matte.
 - a. Color: Silver Moon.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify shaft and machine space are of correct size and within tolerances.
- C. Verify required landings and openings are of correct size and within tolerances.
- D. Verify electrical rough-in is at correct location.
- E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install platform lifts in accordance with applicable regulatory requirements including ASME A17.1, ASME A18.1 and the manufacturer's instructions.

- B. Install system components and connect to building utilities.
- C. Accommodate equipment in space indicated.
- D. Startup equipment in accordance with manufacturer's instructions.
- E. Adjust for smooth operation.

3.4 FIELD QUALITY CONTROL

- A. Perform tests in compliance with ASME A17.1 or A18.1 and as required by authorities having jurisdiction.
- B. Schedule tests with agencies and Architect, Owner, and Contractor present.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION